

זאב מלצר חברה לעבודות חשמל בע"מ
ת.ד. 10011 מפרץ חיפה 26110
טל: 04-8757037, פקס: 04-8742172, נייד: 050-5266178
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בקרים מסדרת 8200 ווקטור

הוראות תכנות
רשימת קודים
רשימת תקלות

מאי 2005

כללי

ביצועי בקר המהירות מותאמים לאפליקציות שונות על ידי כיוון פרמטרים. התיאור המלא של הפונקציות נמצא בחוברת "הוראות ההפעלה" של היחידה. המידע מאורגן בקודים ולחלקם גם תת-קודים. מספרי הקודים מתחילים באות C ולהם תכולה המכונה "פרמטר". ניתן לשנות את הפרמטרים בעזרת צג תכנות או מודולים (modules) לתקשורת בפרוטוקולים שונים. אם תהליך שינוי הפרמטרים השתבש מומלץ לחזור לערכים המקוריים בעזרת קוד C002 ולהתחיל מחדש. מותר לחבר/לשלוח את מודול התקשורת או צג התכנות בזמן פעולת הבקר.

צג תכנות מדגם E82ZBC

צג התכנות מתאים לחיבור ישיר על גבי הבקר או כמסוף ידני המחובר אל הבקר בכבל. ניתן לחבר את צג התכנות גם ללוח חשמל או לוח הפעלה בעזרת מתאם וברגים.

מקש	תפקיד	הערות
	הפעלת מנוע	גם במהדק מספר 28 חייב להיות מתח
	עצירת מנוע	קונפיגורציה ב-C-0469
	מעבר בין תצוגה 1# לתצוגה 2#	
	תזוזה ימינה/שמאלה בתצוגה האקטיבית	הפונקציה הפעילה מודגשת
	הגדלת/הקטנת ערך לשינוי מהיר לחיצה ארוכה	ערכים מהבהבים ניתנים לשינוי
	שמירה בזיכרון	מאשר ע"י STOrE בתצוגה
תצוגה	משמעות	הערות
	מוכן לפעולה	
	בקר לא מאופשר (disabled)	דרגות היציאה אינן מאופשרות
	הגבלת זרם פועלת	ראה C022, C023 (Imax)
	הבקר במצב התראה	
	הבקר במצב תקלה	

תצוגת Bar Graph

תצוגה של הקוד שמספרו שמור בקוד C0004. התצוגה היא ב - % (בתצורה המקורית מוצג C0056 = עומס הבקר). תחום התצוגה הוא: -180%...+180%. כל קו=20%.



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תצוגה 1#

פונקציה	משמעות	הערות
Set	כיוון המהירות בעזרת  	לא אפשרי כאשר מופעלת הגנת סיסמה (תצוגת "LOC")
Disp	תצוגת "תפריט אישי" קוד C517/1 תצוגת הקבוצה האקטיבית	אקטיבי בחיבור היחידה לרשת
Code	בחירת קוד	תצוגת 4 ספרות של הקוד האקטיבי
SubCode	בחירת תת קוד	תצוגת 3 ספרות של מספר תת הקוד האקטיבי
Para	ערך הפרמטר של (תת) הקוד	תצוגת 5 ספרות של ערך הפרמטר
H/L	תצוגת ערכים בעלי יותר מ- 5 ספרות H : ספרות MSD L : ספרות LSD	תצוגת "HI" תצוגת "LO"

תצוגה 2#

פונקציה	משמעות	הערות
PS	בחירת קבוצת פרמטרים 1# . . . 4# לתכנות	הפעלת קבוצת פרמטרים רק באמצעות כניסות דיגיטליות הקונפיגורציה ב - C0410
Bus	בחירת משתתפים לרשת התקשורת בפרוטוקול CAN	כיוון המשתתפים יכול להעשות בבקר הספציפי = פונקציה אקטיבית 
Menu	בחירת תפריט התפריט האישי אקטיבי עם החיבור לרשת. אם יש צורך החלף ל- ALL	uSEr רשימת הקודים "בתפריט האישי" C0517 ALL רשימת כל הקודים FunCI תצוגת קודים ספציפיים רק לתקשורת

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שינוי ושמירת פרמטרים בעזרת צג התכנות – דגם E82ZBC

צעד	מקש	תצוגה	הערה
1	התקן צג תכנות	Disp XX.XX Hz	הקוד הראשון בתפריט האישי מוצג: C0517/1 (כיוון LENZE : C0050 = תדר מוצא)
2	עבור לתפריט ALL	1	
3		Menu	בתצוגה מופיע "uSEr"
4		ALL	בחר תפריט ALL (רשימת כל הקודים)
5			אישור בחירה.
6	עצור את המנוע	RDY IMP	נדרש רק אם רוצים לשנות את קודים C0002,C0148,C0174,C0469
7	שינוי קודים ופרמטרים	Code	
8		XXXX	בחר קוד
9		SubCode	קודים להם אין תת קודים : עבור ישירות לצעד 11
10		001	
11		XXX	בחר תת קוד
12		Para	
13		XXXXX	שנה פרמטר
14		STOrE	אישור כאשר → מהבהב
		ENTER	אישור כאשר → אינו מהבהב; אינו פעיל
14	הכנס פרמטרים		חזור לשלב 7 לפרמטרים נוספים

מעבר בין קבוצות פרמטרים

השתמש בצג התכנות לשינוי קבוצת הפרמטרים בה רוצים לשנות פרמטרים.
השתמש בכניסות הדיגיטליות להפעלת הקבוצה הנדרשת (ראה C0410).

תצוגת הקבוצה האקטיבית יכולה להיעשות ע"י שימוש ב- **Disp**.

צעד	מקש	תצוגה	הערה
1	בחר פונקציה	1	
2		PS	
3	בחר קבוצת פרמטרים	1 עד 4	בחר קבוצה לשינוי
4		1	אישור שינוי.
5	הכנסת פרמטרים		לפי התאור בטבלה הקודמת

שינוי "תפריט אישי"

צעד	מקש	תצוגה	הערות
1		1	עבור לתפריט ALL
2		Menu	
3		ALL	עבור לתפריט ALL – רשימת כל הקודים
4		1	אישור שינוי.
5		Code	בחר "תפריט אישי"
6		0517	קוד "התפריט האישי"
7		SubCode 001	בחר תת-קוד רצוי
8		001 עד 010	בחר תת קוד
9		Para	שינוי ערך
10		XXXXX	הקש מס. קוד הרצוי. אין בדיקה אם הקוד קיים! 0 – למחיקת השורה.
11		STOrE	אישור שינוי
12			חזור לשלב 7 לשינויים נוספים

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השימוש בסיסמה

הסיסמה מגבילה את הנגישות ואפשרות שינוי הפרמטרים בקודים.
ללא הקשת סיסמה (C0094=1 . . . 9999) אם הוגדרה, יש גישה רק לתפריט האישי.

צעד	מקש	תצוגה	הערות
1		1	היכנס לתפריט ALL
2		Menu	
3		ALL	בחר תפריט ALL (רשימת כל הקודים)
4		1	אישור שינוי.
5		Code	הקש סיסמה
6		0094	קוד הסיסמה
7		Para	
8		XXXX	סיסמה (לדוגמה 123)
9		STOrE	אישור סיסמה
10		1	הפעל הגנת סיסמה
11		Menu	ע"י כניסה לתפריט אישי
12		uSEr	בחר בתפריט אישי
13		1	אישור שינוי. המפתח מסמל שהסיסמה הופעלה

שינוי פרמטרים בבקר מוגן סיסמה

1	שונים	PASS O 	הפעלת פונקציית הסיסמה
2		PASS XXXX 	ביטול זמני של הגנת הסיסמה
3		STOrE	אישור ביטול זמני של הסיסמה אינו מוצג
4	שונים		גישה חופשית לכל הקודים
5		1	הפעלת הגנת הסיסמה מחדש
6		Menu	ע"י מעבר לתפריט אישי
7		USEr	בחר תפריט אישי
8		1 	אישור שינוי. תצוגה 1# הגנת הסיסמה מופעלת שוב

שינוי ושמירת פרמטרים בעזרת צג התכנות – דגם EMZ9371BC

דגם זה מתאים לחיבור של בקרים מסדרה 82EV וגם בקרי סרוו מסדרה 9300.
 סדר הפעולות לשינוי פרמטרים בבקרי 82EV:

צעד	מקש	תצוגה	הערה
1	התקן צג תכנות	RDY IMP 005000 0.00Hz 0%	RDY - מוכן להפעלה IMP - אין פקודת הפעלה או שהמהירות הנדרשת היא 0 תצוגת תדר המנוע Hz ועומס הבקר באחוזים
2	עבור לתפריט ALL	Menu <u>1</u> User-Menu	
3	▲	<u>2</u> 1 Code List	
4	→	<u>2</u> 1 Code List ALL	בחר סט פרמטרים מס. 1 כל הקודים
5	↩	Code 000100 Setpt setup 0	אישור בחירה.
6	עצור את המנוע	RDY IMP STOP	נדרש רק אם רוצים לשנות את קודים C0002,C0148,C0174,C0469
7	שינוי קודים ופרמטרים	XXXXxx ▲▼	בחר קוד / תת קוד
8	PRG		הכנס לפרמטר
9	▲▼	XXXXX	שנה פרמטר
10	PRG		אישור

רשימת התקלות

תצוגה	תאור התקלה	סיבה	פעולה
nOEr	אין תקלה		
Ccr	תקלת CPU	- הפרעות בחוטי הבקרה - Ground loops	סינוך חבר הארקה רק בנקודה אחת
cEO	תקלת תקשורת – AIF	שידור שגוי של מידע – AIF	העבר מודול תקשורת למנשא ידני
cE1	תקלת CAN	מידע שגוי או תקשורת התנתקה CAN-IN1	בדוק מודול FIF בדוק מערכת כבל CAN הארץ זמן C0357/1
cE2	תקלת CAN	מידע שגוי או תקשורת התנתקה CAN-IN2	בדוק מודול FIF בדוק מערכת כבל CAN הארץ זמן C0357/2
cE3	תקלת CAN	מידע שגוי או תקשורת התנתקה CAN-IN1	בדוק מודול FIF בדוק מערכת כבל CAN הארץ זמן C0357/3
cE4	ניתוק תקשורת	הודעות שגויות מרובות ניתקו את התקשורת	בדוק נגד 120 אום ברשת בדוק סינוך של הכבלים בדוק חיבורי הארקה בדוק עומס הרשת והורד קצב תקשורת
cE5	CAN timeout	Slave אינו מגיב זמן תגובה ארוך מדי תקלת FIF	בדוק חיווט CAN בדוק קונפיגורציה התקשר עם הנציגות
cE6	תקלת CAN	אם C0128=1 FIF מדווח תקלה	בדוק נגד 120 אום ברשת בדוק סינוך של הכבלים בדוק חיבורי הארקה בדוק עומס הרשת והורד קצב תקשורת
EEr	תקלה חיצונית	Trip-Set הופעל ע"י מהדק כניסה	בדוק הגדרת הכניסות
H05	תקלה פנימית		התקשר עם הנציגות
Id1	תקלה בזמן זיהוי פרמטרים	מנוע לא מחובר	חבר מנוע
LP1	תקלה בפאזה במנוע רק אם C0597=1,2	חוסר פאזה או זרם נמוך מדי	בדוק כבלי מנוע בדוק C016 שנה ערך C599
LU	מתח נמוך DC bus	מתח כניסה נמוך מתח DC נמוך	בדוק מתח רשת בדוק הספקת DC
OC1	קצר	קצר או קיבוליות גבוהה של כבלי המנוע	בדוק כבלי מנוע, נגד בלימה קצר אורך כבלים

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OC2	קצר גוף	קצר גוף מנוע או קיבוליות גבוהה של כבלי המנוע לנסיין בלבד(!) : ניתן לבטל בדיקה זו ע"י C0119=3	בדוק מנוע וכבלים קצר אורך כבלים
OC3	עומס יתר בתאוצה	זמן תאוצה קצר מדי - C12	הגדל C12. בדוק גודל בקר
OC4	עומס יתר בתאוצה	זמן תאוצה קצר מדי - C13	הגדל C13 בדוק נגד בלימה
OC5	עומס יתר - בקר	עומס יתר ממושך	בדוק גודל בקר
OC6	עומס יתר - מנוע	הגנת מנוע: זרם יתר או התנעות מרובות	בדוק גודל בקר בדוק C120
OH	טמפ. יתר במצנן הבקר	טמפ. סביבה גבוהה מצנן מלוכלך זרם גבוה או התנעות מרובות	בדוק מאוורר לוח נקה מצנן בדוק גודל בקר ועומס מיסבים
OH3 OH51	PTC מנוע	טמפ. יתר במנוע בגלל עומס יתר או התנעות מרובות PTC מנותק	בדוק גודל מנוע חבר PTC או שנה C119
OH4	טמפ. יתר בבקר	טמפ. יתר של המעגלים בבקר	הפחת עומס שפר קירור בדוק מאוורר פנימי בבקר
OU	מתח יתר DC bus	מתח רשת גבוהה בתהליך בלימה זליגה להארקה במנוע	בדוק מתח הזנה הארץ תאוסות C13/C105 בדוק נגד בלימה/חיבורים בדוק כבלי מנוע נתק מנוע מהבקר לבדיקה
Pr Pr1 Pr2 Pr3 Pr4 Pr5	העברת נתונים שגויה מצג התכנות	כל הפרמטרים שגויים	חובה להעביר נתונים שנית או לטעון את ברירת המחדל
	תקלה פנימית		התקשר עם הנציגות
PTS	תקלה בזמן העברת פרמטרים	תכנת נותק בזמן העברת פרמטרים	חובה להעביר נתונים שנית או לטעון את ברירת המחדל
rST	תקלה בזמן Auto-TRIP reset	יותר מ- 8 תקלות ב- 10 דקות	
SdS	זרם נמוך מ- 4mA בכניסה האנלוגית		בדוק את מקור הזרם והחיווט

16.3 Overview of signal processing

16.3.1 Controller with standard I/O

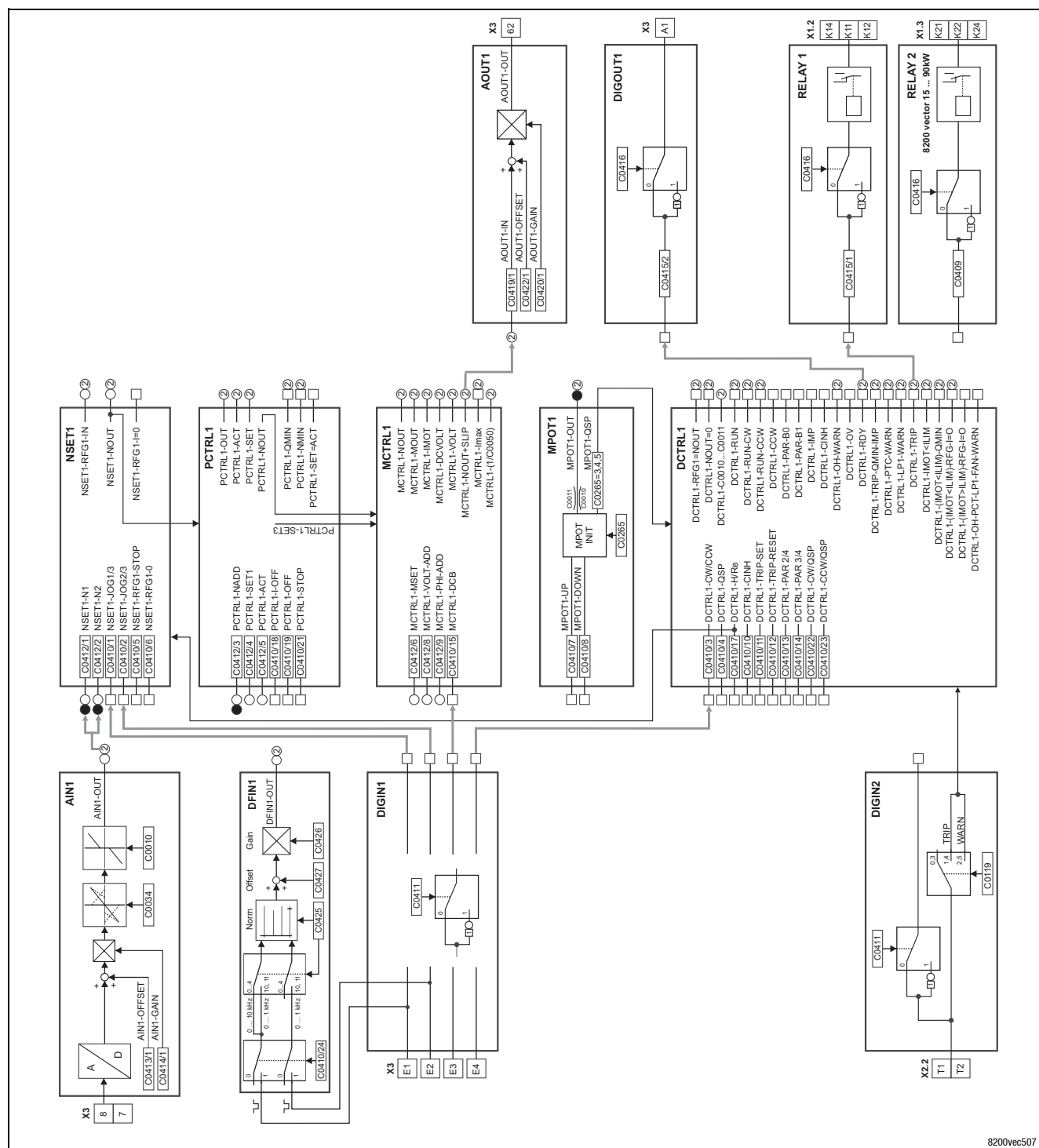


Fig. 16.3-1 Overview of signal flow with Standard I/O

16.3.3 Controller with application I/O



Fig. 16.3-3 Overview of signal flow with Application I/O

16.4 Signal processing in the function blocks

16.4.1 Speed setpoint conditioning (NSET1)

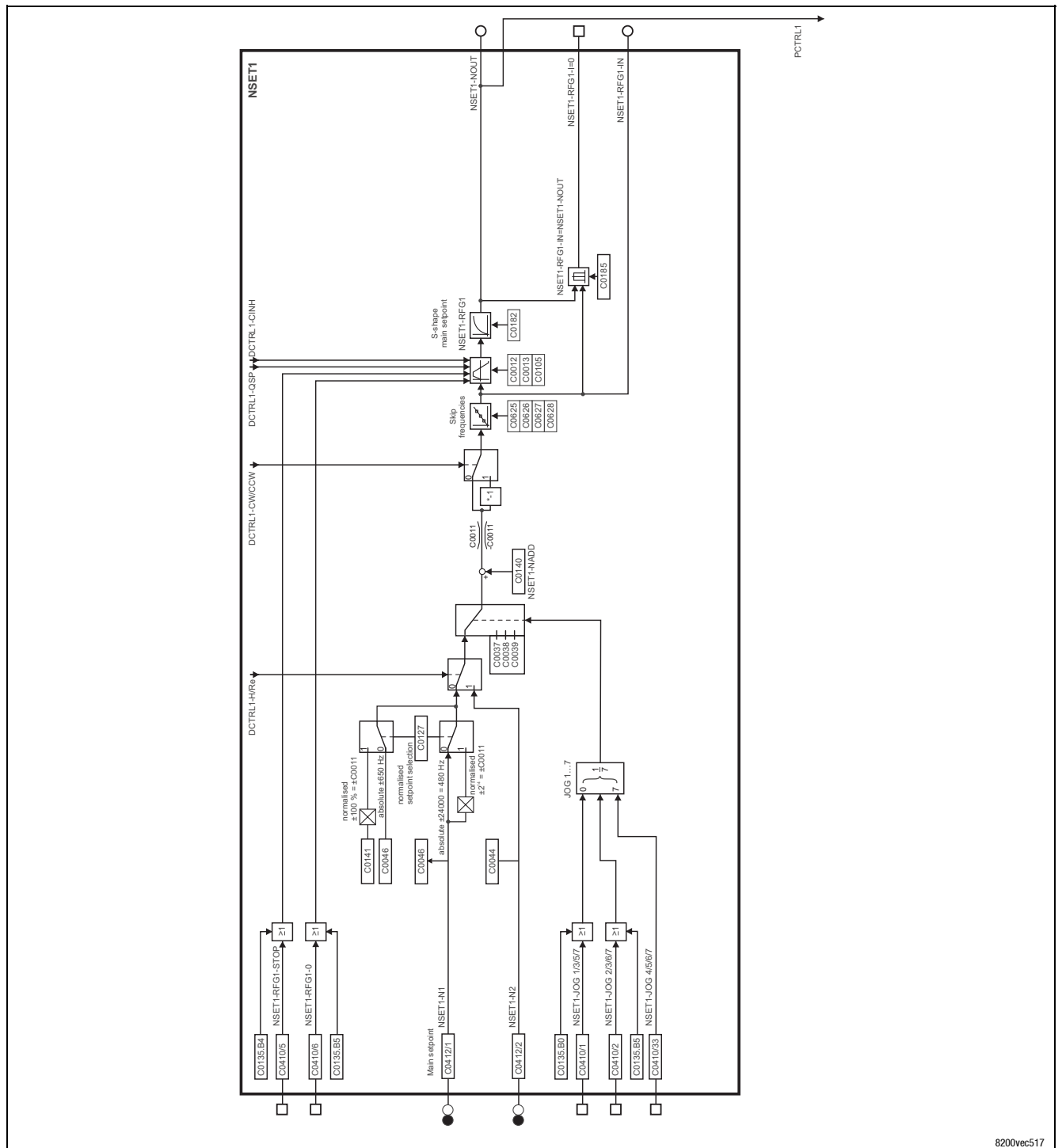


Fig. 16.4-1 Signal flow of speed setpoint conditioning

16.4.2 Speed setpoint conditioning (NSET1) with Application I/O

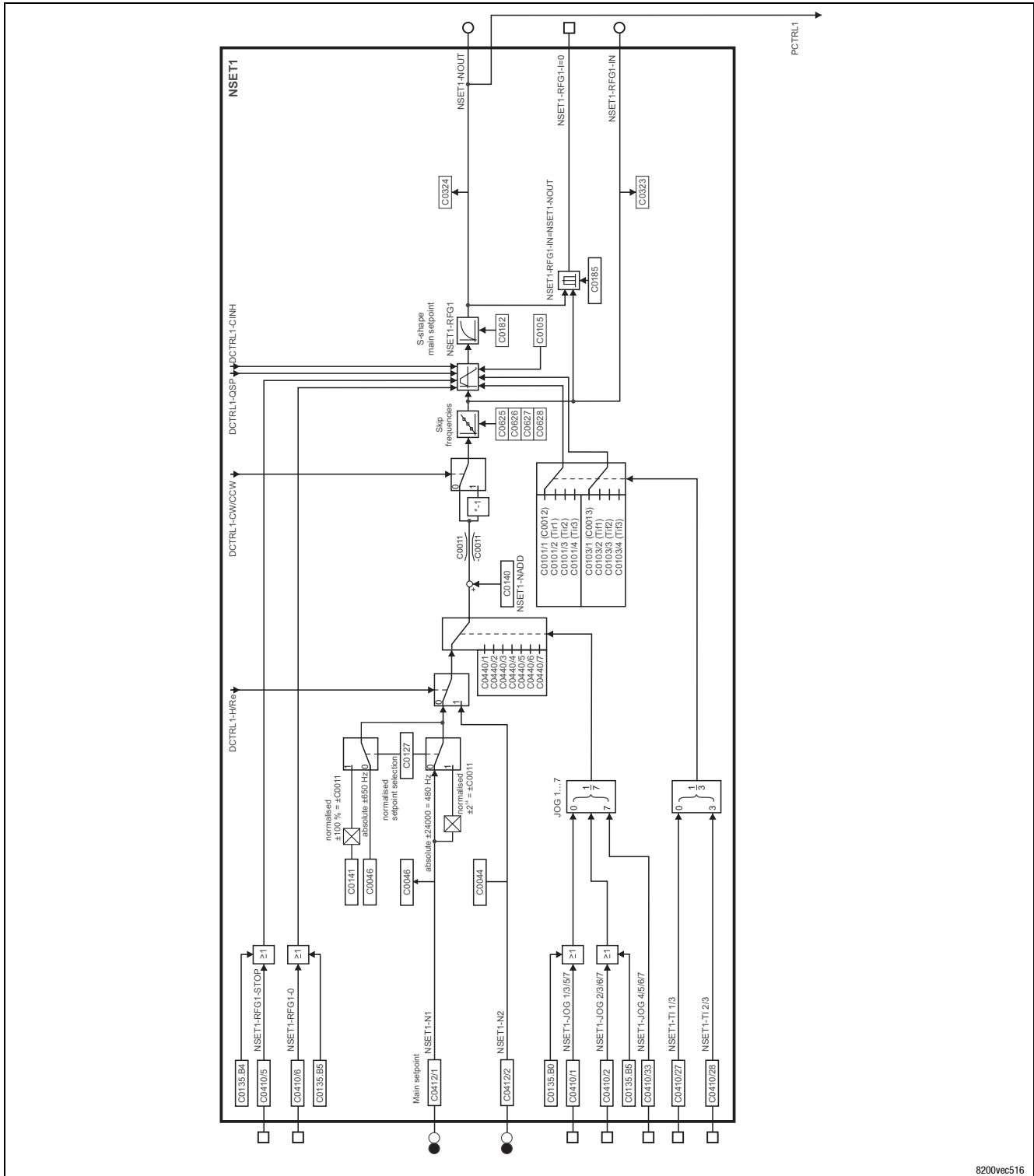


Fig. 16.4-2 Signal flow of speed setpoint conditioning with Application I/O

16.4.4 Process controller and setpoint processing (PCTRL1) with Application I/O

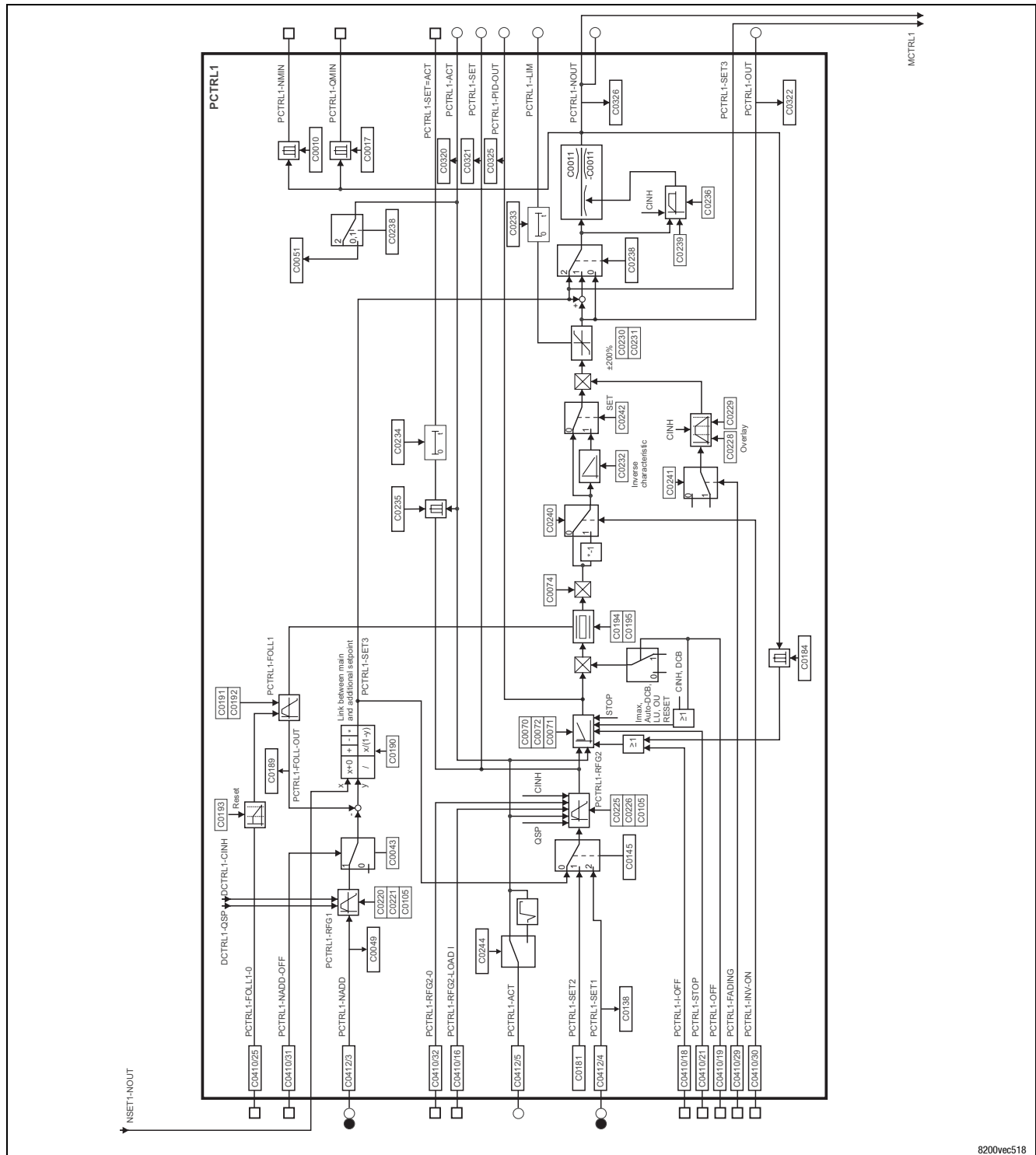


Fig. 16.4-4 Signal flow in the process controller and setpoint processing with Application I/O

16.4.5 Motor control (MCTRL1)

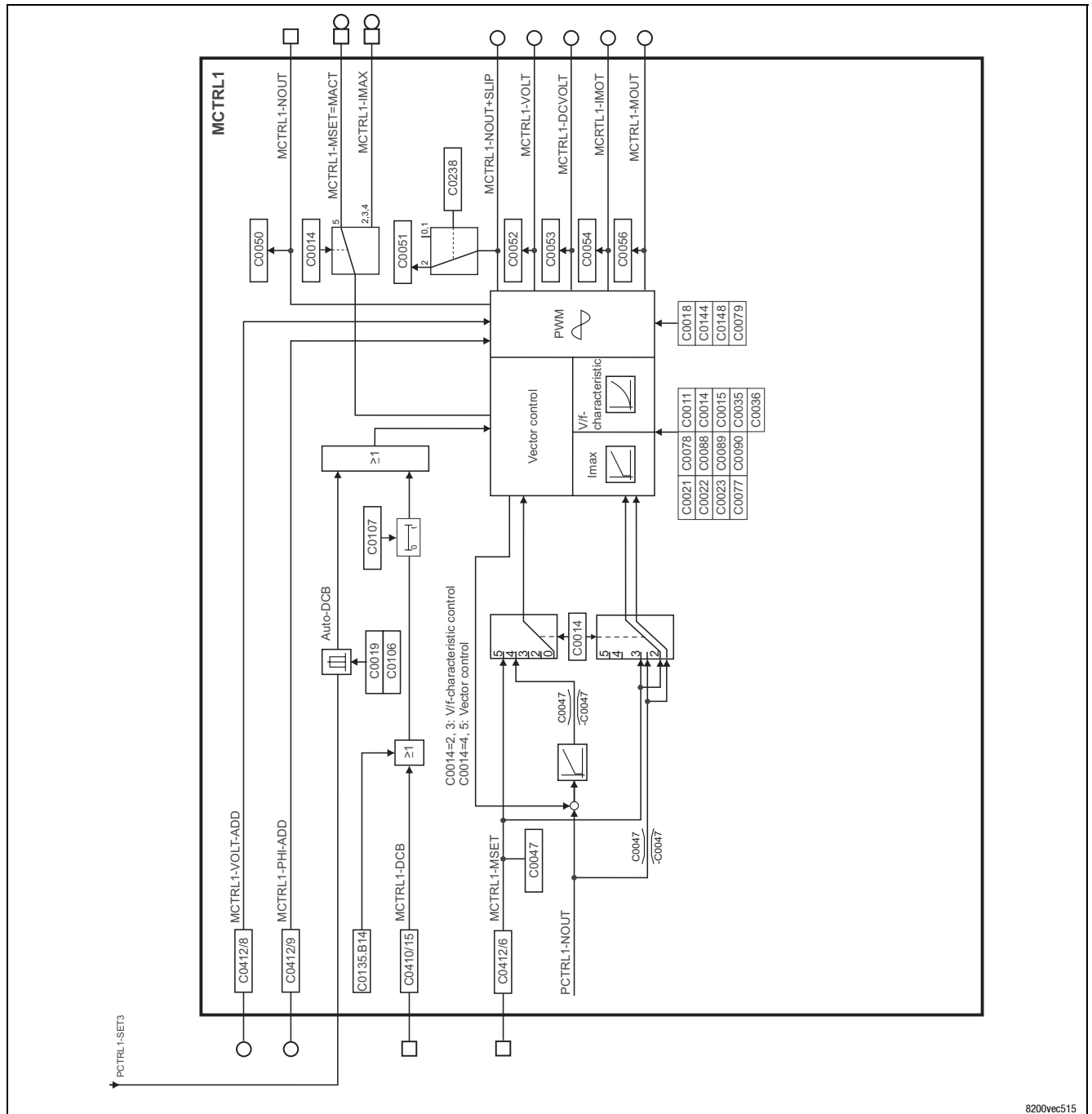


Fig. 16.4-5 Signal flow in the motor control

16.4.6 Motor control (MCTRL1) with Application I/O

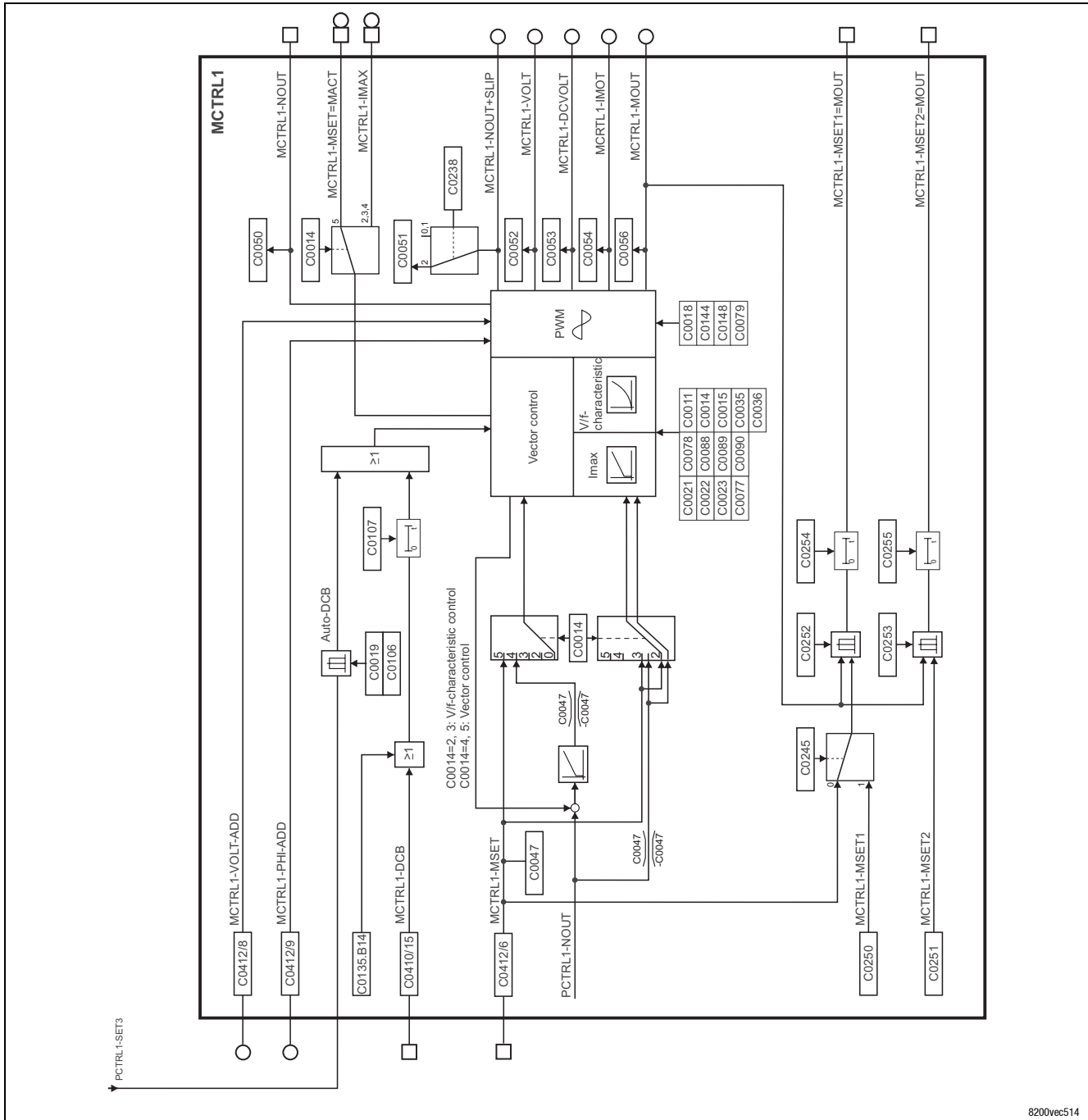
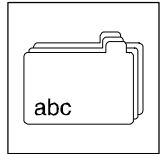


Fig. 16.4-6 Signal flow in the motor control with Application I/O

8200vec514



14.2 Code table




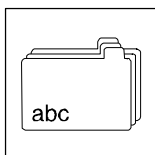
Tip!

This code table also applies to the 8200 motec as of version E82MV ... Vx1x!

- The codes are sorted according to their numbers and can be used as reference.
- Some functions are freely configurable. We recommend the "free configuration" since this options guarantuees optimum flexibility in parameterisation.
- The cross references under "IMPORTANT" indicate where to find detailed code descriptions.
- How to read the code table:

Column	Abbreviation	Meaning
Code	Cxxxx	Code Cxxxx
	1	Subcode 1 of Cxxxx
	2	Subcode 2 of Cxxxx
	Cxxxx*	The parameter value of a code is the same in all parameter sets
	Cxxxx↵	Changed parameters will be accepted after pressing ENTER
	[Cxxxx]	Changed parameters will be accepted after pressing ENTER if the controller is inhibited
Name	(A)	Code, subcode or selection are only available when using an application-I/O
		Code name
Lenze		Lenze setting (value set at delivery or after overwriting of C0002 with Lenze setting)
	→	Further information can be obtained from "IMPORTANT"
Selection	1 {1 %} 99	Min. value {Steps/unit} Max. value
IMPORTANT	-	Brief, important explanations
	📖 Page x	Indicates where to find more detailed information

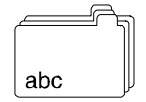
Code		Possible settings		IMPORTANT	
No.	Name	Lenze	Selection		
C0001↵	Setpoint source selection (operating mode)	-0-		<ul style="list-style-type: none">• C0001 = 0 ... 3: The device can be controlled via terminals or PC/keypad• Check the assignment of setpoint source and analog signal under C0412• AIF bus modules are, for instance, INTERBUS 2111, PROFIBUS-DP 2133, System bus (CAN) 2171, LECOM A/B/LI 2102 C0001 = 3 must be set to select a setpoint via a process data channel of an AIF bus module! Otherwise the process data will not be evaluated!	 7-19
			Setpoint source		
			-0- Other sources as parameter channel/process data channel of AIF		
			-1- Parameter channel of an AIF bus module		
			-2- Other sources as parameter channel/process data channel of AIF		
-3- Process data channel of an AIF bus module (AIF-IN.W1 or AIF-IN.W2)					





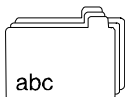
Appendix

Code table

Code		Possible settings		IMPORTANT
No.	Name	Lenze	Selection	
[C0002]*	Parameter set transfer	-0-	-0- Function executed	7-54
			Parameter sets of the controller	
			-1- Lenze setting ⇔ PAR1	
			-2- Lenze setting ⇔ PAR2	
			-3- Lenze setting ⇔ PAR3	
			-4- Lenze setting ⇔ PAR4	
			-10- Keypad ⇔ PAR1 ... PAR4	
			-11- Keypad ⇔ PAR1	
			-12- Keypad ⇔ PAR2	
			-13- Keypad ⇔ PAR3	
			-14- Keypad ⇔ PAR4	
			-20- PAR1 ... PAR4 ⇔ Keypad	
			Parameter sets of a function module to FIF	
			-31- Lenze setting ⇔ FPAR1	
			-32- Lenze setting ⇔ FPAR2	
			-33- Lenze setting ⇔ FPAR3	
			-34- Lenze setting ⇔ FPAR4	
			-40- Keypad ⇔ FPAR1 ... FPAR4	
			-41- Keypad ⇔ FPAR1	
			-42- Keypad ⇔ FPAR2	
			-43- Keypad ⇔ FPAR3	
			-44- Keypad ⇔ FPAR4	
			-50- FPAR1 ... FPAR4 ⇔ Keypad	
			Parameter sets of controller + function module to FIF	
			-61- Lenze setting ⇔ PAR1 + FPAR1	
			-62- Lenze setting ⇔ PAR2 + FPAR2	
			-63- Lenze setting ⇔ PAR3 + FPAR3	
			-64- Lenze setting ⇔ PAR4 + FPAR4	
			-70- Keypad ⇔ PAR1 ... PAR4 + FPAR1 ... FPAR4	
			-71- Keypad ⇔ PAR1 + FPAR1	
			-72- Keypad ⇔ PAR2 + FPAR2	
			-73- Keypad ⇔ PAR3 + FPAR3	
			-74- Keypad ⇔ PAR4 + FPAR4	
			-80- PAR1 ... PAR4 + FPAR1 ... FPAR4 ⇔ Keypad	
C0003* ↴	Non-volatile parameter saving	-1-	-0- Do not save parameter in EEPROM	Data loss after mains disconnection • Active after every main connection • Cyclic parameter changes via bus module are not allowed.
			-1- Always save parameter in EEPROM	
C0004* ↴	Bar-graph display	56	All codes possible 56 = controller load (C0056)	• Bargraph display indicates the selected in % after power on • Range -180 % ... +180 %



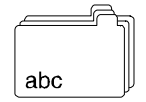
Code		Possible settings				IMPORTANT			
No.	Name	Lenze	Selection						
C0005	Fixed configuration analog input signals	-0-					<ul style="list-style-type: none">● Change under C0005 will be copied to the corresponding subcode of C0412. Free configuration under C0412 sets C0005 = 255!● Configurations with X3/E1:<ul style="list-style-type: none">– Additionally activate the frequency with C0410/24 = 1.– Otherwise the frequency input will not be evaluated!	 7-36	
			-0-	Setpoint for speed control via X3/8 or X3/1U, X3/1I					
			-1-	Setpoint for speed control via X3/8 with setpoint summation via frequency input X3/E1					
			-2-	Setpoint for speed control via frequency input X3/E1 with setpoint summation via X3/8					
			-3-	Setpoint for speed control via frequency input X3/E1, torque limitation via X3/8 (power control)					
			-4-	Setpoint for sensorless torque control via X3/8, speed limitation via C0011					Only active if C0014 = -5- (torque selection)
			-5-	Setpoint for sensorless torque control via X3/8, speed limitation via frequency input X3/E1					
			-6-	Controlled operation; setpoint via X3/8 with digital feedback via X3/E1					
			-7-	Controlled operation; setpoint via frequency input X3/E1 with analog feedback via X3/8					
			-200-	All digital and analog input signals come are sent via the bus function module to FIF (e.g. INTERBUS, PROFIBUS-DP)					Sets C0410/x = 200 and C0412/x = 200
			-255-	Free configuration under C0412					Display only Do not change C0005 since settings under C0412 can be lost
C0007	Fixed configuration of digital inputs	-0-	E4	E3	E2	E1		<ul style="list-style-type: none">● Change under C0007 will be copied to the corresponding subcode of C0410. Free configuration under C0410 sets C0007 = -255-!● CW = CW rotation● CCW = CCW rotation● DCB = DC-injection brake● PAR = Changeover (PAR1 ↔ PAR2) PAR1 = LOW; PAR2 = HIGH<ul style="list-style-type: none">– The corresponding terminal must be assigned to the function "PAR" in PAR1 and PAR2.– Configurations with "PAR" are only allowed if C0988 = -0-● JOG1/3, JOG2/3 = Selection of fixed setpoints JOG1: JOG1/3 = HIGH, JOG2/3 = LOW JOG2: JOG1/3 = LOW, JOG2/3 = HIGH JOG3: JOG1/3 = HIGH, JOG2/3 = HIGH● QSP = Quick stop● TRIP set = external fault● UP/DOWN = Motor potentiometer functions● H/Re = Hand/remote changeover● PCTRL1-I-OFF = Switch-off process controller I component● DFIN1-ON = Digital frequency input 0 ... 10 kHz● PCTRL1-OFF = Switch off process controller	 7-43
			-0-	CW/CCW	DCB	JOG2/3	JOG1/3		
			-1-	CW/CCW	PAR	JOG2/3	JOG1/3		
			-2-	CW/CCW	QSP	JOG2/3	JOG1/3		
			-3-	CW/CCW	PAR	DCB	JOG1/3		
			-4-	CW/CCW	QSP	PAR	JOG1/3		
			-5-	CW/CCW	DCB	TRIP set	JOG1/3		
			-6-	CW/CCW	PAR	TRIP set	JOG1/3		
			-7-	CW/CCW	PAR	DCB	TRIP set		
			-8-	CW/CCW	QSP	PAR	TRIP set		
			-9-	CW/CCW	QSP	TRIP Set	JOG1/3		
			-10-	CW/CCW	TRIP Set	UP	DOWN		
			-11-	CW/CCW	DCB	UP	DOWN		
			-12-	CW/CCW	PAR	UP	DOWN		
			-13-	CW/CCW	QSP	UP	DOWN		
			-14-	CCW/QSP	CW/QSP	DCB	JOG1/3		
			-15-	CCW/QSP	CW/QSP	PAR	JOG1/3		
			-16-	CCW/QSP	CW/QSP	JOG2/3	JOG1/3		
			-17-	CCW/QSP	CW/QSP	PAR	DCB		
			-18-	CCW/QSP	CW/QSP	PAR	TRIP set		
			-19-	CCW/QSP	CW/QSP	DCB	TRIP set		
			-20-	CCW/QSP	CW/QSP	TRIP set	JOG1/3		
			-21-	CCW/QSP	CW/QSP	UP	DOWN		
			-22-	CCW/QSP	CW/QSP	UP	JOG1/3		
			-23-	H/Re	CW/CCW	UP	DOWN		



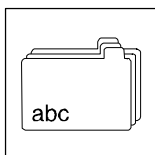
Appendix

Code table

Code		Possible settings						IMPORTANT	
No.	Name	Lenze	Selection						
C0007 ↴ (cont.)	Fixed configuration of digital inputs	-0-	-24-	H/Re	PAR	UP	DOWN	<ul style="list-style-type: none">• Change under C0007 will be copied to the corresponding subcode of C0410. Free configuration under C0410 sets C0007 = -255-!• CW = CW rotation• CCW = CCW rotation• DCB = DC-injection brake• PAR = Changeover (PAR1 ⇔ PAR2) PAR1 = LOW; PAR2 = HIGH<ul style="list-style-type: none">– The corresponding terminal must be assigned to the function "PAR" in PAR1 and PAR2.– Configurations with "PAR" are only allowed if C0988 = -0-• JOG1/3, JOG2/3 = Selection of fixed setpoints JOG1: JOG1/3 = HIGH, JOG2/3 = LOW JOG2: JOG1/3 = LOW, JOG2/3 = HIGH JOG3: JOG1/3 = HIGH, JOG2/3 = HIGH• QSP = Quick stop• TRIP set = external fault• UP/DOWN = Motor potentiometer functions• H/Re = Hand/remote changeover• PCTRL1-I-OFF = Switch-off process controller I component• DFIN1-ON = Digital frequency input 0 ... 10 kHz• PCTRL1-OFF = Switch off process controller	
			-25-	H/Re	DCB	UP	DOWN		
			-26-	H/Re	JOG1/3	UP	DOWN		
			-27-	H/Re	TRIP set	UP	DOWN		
			-28-	JOG2/3	JOG1/3	PCTRL1-I-OFF	DFIN1-ON		
			-29-	JOG2/3	DCB	PCTRL1-I-OFF	DFIN1-ON		
			-30-	JOG2/3	QSP	PCTRL1-I-OFF	DFIN1-ON		
			-31-	DCB	QSP	PCTRL1-I-OFF	DFIN1-ON		
			-32-	TRIP set	QSP	PCTRL1-I-OFF	DFIN1-ON		
			-33-	QSP	PAR	PCTRL1-I-OFF	DFIN1-ON		
			-34-	CW/QSP	CCW/QSP	PCTRL1-I-OFF	DFIN1-ON		
			-35-	JOG2/3	JOG1/3	PAR	DFIN1-ON		
			-36-	DCB	QSP	PAR	DFIN1-ON		
			-37-	JOG1/3	QSP	PAR	DFIN1-ON		
			-38-	JOG1/3	PAR	TRIP set	DFIN1-ON		
			-39-	JOG2/3	JOG1/3	TRIP set	DFIN1-ON		
			-40-	JOG1/3	QSP	TRIP set	DFIN1-ON		
			-41-	JOG1/3	DCB	TRIP set	DFIN1-ON		
			-42-	QSP	DCB	TRIP set	DFIN1-ON		
			-43-	CW/CCW	QSP	TRIP set	DFIN1-ON		
			-44-	UP	DOWN	PAR	DFIN1-ON		
			-45-	CW/CCW	QSP	PAR	DFIN1-ON		
			-46-	H/Re	PAR	QSP	JOG1/3		
			-47-	CW/QSP	CCW/QSP	H/Re	JOG1/3		
			-48-	PCTRL1- OFF	DCB	PCTRL1-I-OFF	DFIN1-ON		
			-49-	PCTRL1- OFF	JOG1/3	QSP	DFIN1-ON		
			-50-	PCTRL1- OFF	JOG1/3	PCTRL1-I-OFF	DFIN1-ON		
			-51-	DCB	PAR	PCTRL1-I-OFF	DFIN1-ON		
			-255-	Free configuration under C0410				Display only Do not change C0007 since settings under C0410 can be lost	



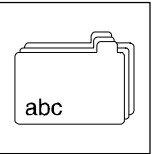
Code		Possible settings		IMPORTANT	
No.	Name	Lenze	Selection		
C0008	Fixed configuration of relay output K1 (relay)	-1-		Change under C0008 will be copied to C0415/1. Free configuration under C0415/1 sets C0008 = -255-!	7-45
			-0- Ready for operation (DCTRL1-RDY)		
			-1- TRIP fault message (DCTRL1-TRIP)		
			-2- Motor is running (DCTRL1-RUN)		
			-3- Motor is running / CW rotation (DCTRL1-RUN-CW)		
			-4- Motor is running / CCW rotation (DCTRL1-RUN-CCW)		
			-5- Output frequency = 0 (DCTRL1-NOUT=0)		
			-6- Frequency setpoint reached (MCTRL-RFG1=NOUT)		
			-7- Q_{min} threshold higher (PCTRL1-QMIN)		
			-8- I_{max} limit reached (MCTRL1-IMAX) C0014 = -5-: Torque setpoint reached		
			-9- Overtemperature (ϑ_{max} -5 °C) (DCTRL1-OH-WARN)		
			-10- TRIP or Q_{min} or pulse inhibit (IMP) (DCTRL1-IMP)		
			-11- PTC warning (DCTRL1-PTC-WARN)		
			-12- Apparent motor current < current threshold (DCTRL1-IMOT<ILIM)	Belt monitoring Apparent motor current = C0054 Current threshold = C0156	
			-13- Apparent motor current < current threshold and Q_{min} threshold reached (DCTRL1-(IMOT<ILIM)-QMIN)		
			-14- Apparent motor current < current threshold and RFG 1: Input = output (DCTRL1-(IMOT<ILIM)-RFG1=0)		
			-15- Warning motor phase failure (DCTRL1-LP1-WARN)		
			-16- Minimum output frequency reached (PCTRL1-NMIN)		
			-255- Free configuration under C0415/1	Display only Do not change C0008 since settings under C0415/1 can be lost	
C0009	Controller address	1	1 {1} 99	For communication module to AIF only: LECOM-A (RS232), LECOM-A/B/LI 2102, PROFIBUS-DP 2131, System bus (CAN) 2171/2172	
C0010	Minimum output frequency	0.00	0.00 {0.02 Hz} 480.00 → 14.5 Hz	<ul style="list-style-type: none"> C0010 is not effective with bipolar setpoint selection (-10 V ... + 10 V) C0010 has no effect on AIN2 	7-12
C0011	Maximum output frequency	50.00	7.50 {0.02 Hz} 480.00 → 87 Hz	→ Speed setting range 1 : 6 for Lenze geared motors: Setting absolutely required for operation with Lenze geared motors.	
C0012	Acceleration time main setpoint	5.00	0.00 {0.02 s} 1300.00	Reference: frequency change 0 Hz ... C0011 <ul style="list-style-type: none"> Additional setpoint ⇔ C0220 Acceleration times to be activated via digital signals ⇔ C0101 	7-14
C0013	Deceleration time main setpoint	5.00	0.00 {0.02 s} 1300.00	Reference: frequency change C0011 ... 0 Hz <ul style="list-style-type: none"> Additional setpoint ⇔ C0221 Deceleration times to be activated via digital signals ⇔ C0103 	



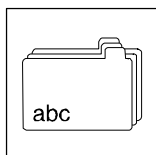
Appendix

Code table

Code		Possible settings		IMPORTANT
No.	Name	Lenze	Selection	
C0014	Control mode	-2-	-2- V/f characteristic control $V \sim f$ (Linear characteristic with constant V_{\min} boost)	<ul style="list-style-type: none"> Commissioning without motor parameter identification possible Benefit of identification with C0148: <ul style="list-style-type: none"> Improved smooth running at low speed V/f rated frequency (C0015) and slip (C0021) are calculated and do not have to be entered
			-3- V/f-characteristic control $V \sim f^2$ (Square-law characteristic with constant V_{\min} boost)	
			-4- Vector control	
			-5- Sensorless torque control with speed limitation <ul style="list-style-type: none"> Torque setpoint via C0412/6 Speed limitation via setpoint 1 (NSET1-N1), if C0412/1 is assigned, if not via max. frequency (C0011) 	
C0015	V/f rated frequency	50.00	7.50 {0.02 Hz} 960.00	Setting applies to all mains voltages permitted 7-4
C0016	U_{\min} boost	→	0.00 {0.2 %} 40.0	→ depending on the controller Setting applies to all mains voltages permitted 7-5
C0017	Frequency threshold Q_{\min}	0.00	0.00 {0.02 Hz} 480.00	Programmable frequency threshold <ul style="list-style-type: none"> Reference: Setpoint Signal output configuration under C0415
C0018	Chopper frequency	-2-	-0- 2 kHz	7-7
			-1- 4 kHz	
			-2- 8 kHz	
			-3- 16 kHz	
C0019	Threshold for automatic DC-injection brake (Auto DCB)	0.10	0.00 {0.02 Hz} 480.00 = not active	Holding time ⇒ C0106 Deactivate the automatic DC injection brake when the minimum frequency limit C0239 is active 7-17
C0021	Slip compensation	0.0	-50.0 {0.1 %} 50.0	7-6
C0022	I_{\max} limit (motor mode)	150	30 {1 %} 150	7-13
C0023	I_{\max} -limit in the generator mode	150	30 {1 %} 150	
C0026*	Offset analog input 1 (AIN1-OFFSET)	0.0	-200.0 {0.1 %} 200.0	<ul style="list-style-type: none"> Settings for X3/8 and X3/1U, X3/11 The max. limit of the setpoint value range of C0034 equals 100 % C0026 and C0413/1 are identical 7-20
C0027*	Gain analog input 1 (AIN1-GAIN)	100.0	-1500.0 {0.1 %} 1500.0	
C0034*	Setpoint selection range Standard-I/O (X3/8)	-0-	-0- 0 ... 5 V / 0 ... 10 V / 0 ... 20 mA	Observe the switch position of the function module! <ul style="list-style-type: none"> Minimum output frequency (C0010) not effective Individual adjustment of offset and gain 7-20
			-1- 4 ... 20 mA	
			-2- -10 V ... +10 V	
			-3- 4 ... 20 mA Open-circuit monitoring	



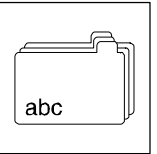
Code		Possible settings		IMPORTANT
No.	Name	Lenze	Selection	
C0034* (A)	Setpoint selection range Application I/O			Observe the jumper setting of the function module!
1	X3/1U, X3/1I	-0-	-0- Voltage unipolar 0 ... 5 V / 0 ... 10 V	Minimum output frequency (C0010) not effective
2	X3/2U, X3/2I		-1- Voltage bipolar -10 V ... +10 V	
			-2- Current 0 ... 20 mA	
			-3- Current 4 ... 20 mA	
			-4- Current 4 ... 20 mA open-circuit monitored	
C0035* ↓	DC injection brake (DCB) control mode	-0-	-0- Brake voltage selection under C0036 -1- Brake current selection under C0036	Holding time ⇒ C0107
C0036	Voltage/current DCB	→	0 {0.02 %} 150 %	→ Depending on the controller • Reference M_r , I_r • Setting applies to all mains voltages permitted
C0037	JOG1	20.00	-480.00 {0.02 Hz} 480.00	JOG = Setpoint
C0038	JOG2	30.00	-480.00 {0.02 Hz} 480.00	Additional JOG values ⇒ C0440
C0039	JOG3	40.00	-480.00 {0.02 Hz} 480.00	
C0040* ↓	Controller inhibit		-0- Controller inhibited (CINH) -1- Controller enabled (CINH)	Controller can only be enabled if X3/28 = HIGH
C0043* ↓	TRIP reset		-0- No current error -1- Active error	Reset active error with C0043 = 0
C0044*	Setpoint 2 (NSET1-N2)		-480.00 {0.02 Hz} 480.00	• Selection, if C0412/2 = FIXED-FREE • Display, if C0412/2 ≠ FIXED-FREE The value set will be lost when switching the mains!
C0046*	Setpoint 1 (NSET1-N1)		-480.00 {0.02 Hz} 480.00	• Selection, if C0412/1 = FIXED-FREE • Display, if C0412/1 ≠ FIXED-FREE The value set will be lost when switching the mains!
C0047*	Torque setpoint or torque limit value (MCTRL1-MSET)		0 {1 %} 400 Ref.: Rated motor torque detected by motor parameter identification	Control mode "Sensorless torque control" (C0014 = 5): • Torque setpoint selection, if C0412/6 = FIXED-FREE • Torque setpoint display, if C0412/6 ≠ FIXED-FREE Control mode "V/f characteristic control" or "Vector control" (C0014 = 2, 3, 4): • Torque limit value display, if C0412/6 ≠ FIXED-FREE • Function not active (C0047 = 400), if C0412/6 = FIXED-FREE The value set will be lost when switching the mains!
C0049*	Additional setpoint (PCTRL1-NADD)		-480.00 {0.02 Hz} 480.00	• Selection, if C0412/3 = 0 • Display, if C0412/3 ≠ 0 The value set will be lost when switching the mains!
C0050*	Output frequency (MCTRL1-NOUT)		-480.00 {0.02 Hz} 480.00	Only display: Output frequency without slip compensation
C0051*	Output frequency with slip compensation (MCTRL1-NOUT+SLIP) or actual process controller value (PCTRL1-ACT)		-480.00 {0.02 Hz} 480.00	Operation without process controller (C0238 = 2): • Display only: Output frequency with slip compensation (MCTRL1-NOUT+SLIP) Operation with process controller (C0238 = 0, 1): • Selection, if C0412/5 = FIXED-FREE • Display, if C0412/5 ≠ FIXED-FREE The value set will be lost when switching the mains!



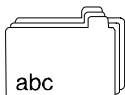
Appendix

Code table

Code		Possible settings			IMPORTANT		
No.	Name	Lenze	Selection				
C0052*	Motor voltage (MCTRL1-VOLT)		0	{1 V}	1000	Only display	
C0053*	DC-bus voltage (MCTRL1-DCVOLT)		0	{1 V}	1000	Only display	
C0054*	Apparent motor current (MCTRL1-IMOT)		0.00	{0.01 A}	400.00	Display only	
C0056*	Controller load (MCTRL1-MOUT)		-255	{1 %}	255	Only display	
C0061*	Heat sink temperature		0	{1 °C}	255	Only display <ul style="list-style-type: none">If > +85 °C:<ul style="list-style-type: none">Controller sets warning <i>OH</i>Chopper frequency reduced if C0144 = 1If > +90 °C:<ul style="list-style-type: none">Controller sets TRIP <i>OH</i>	
C0070	Process controller gain	1.00	0.00	{0.01}	300.00	7-31	
C0071	Process controller readjustment time	100	10	{1}	9999		
C0072	Differential component of process controller	0.0	0.0	{0.1}	5.0		
C0074	Process controller influence	0.0	0.0	{0.1 %}	100.0		
C0077*	Gain I _{max} controller	0.25	0.00	{0.01}	16.00	7-35	
C0078*	Integral action time I _{max} controller	65	12	{1 ms}	9990		
C0079	Oscillation damping	2	0	{1}	80	depending on the controller	7-7
C0084	Motor stator resistance	0.000	0.000	{0.001 Ω}	64.000	7-29	
C0087	Rated motor speed	1390	300	{1 rpm}	16000		
C0088	Rated motor current	→	0.0	{0.1 A}	480.0		→ depending on the controller 0.0 ... 2.0 x rated output current of the controller
C0089	Rated motor frequency	50	10	{1 Hz}	960		
C0090	Rated motor voltage	→	50	{1 V}	500		→ 230 V with 230 V controllers, 400 V with 400 V controllers
C0091	Motor cos φ	→	0.40	{0.1}	1.0		→ Depending on the controller
C0092	Motor stator inductance	0.0	0.0	{0.1 mH}	2000.0		
C0093*	Controller type		xxxy			Display only <ul style="list-style-type: none">xxx = Power taken from nameplate (e. g. 551 = 550 W)y = Voltage class (2 = 240 V, 4 = 400 V)	
C0094*	User password		0	{1}	9999	0 = No password protection 1 ... 9999 = Free access to user menu only	6-7
C0099*	Software version		x.y			Only display x = Main version, y = Index	



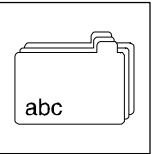
Code		Possible settings			IMPORTANT	
No.	Name	Lenze	Selection			
C0101 (A)	Acceleration times main setpoint					7-14
	1 C0012	5.00	0.00 {0.02 s} 1300.00		Binary coding of the digital signal sources assigned under C0410/27 and C0410/28 determines active time pair	
	2 T _{ir} 1	2.50				
	3 T _{ir} 2	0.50				
	4 T _{ir} 3	10.00				
C0103 (A)	Deceleration times main setpoint				C0410/27 C0410/28 active LOW LOW C0012; C0013 HIGH LOW T _{ir} 1; T _{if} 1 LOW HIGH T _{ir} 2; T _{if} 2 HIGH HIGH T _{ir} 3; T _{if} 3	7-16
	1 C0013	5.00	0.00 {0.02 s} 1300.00			
	2 T _{if} 1	2.50				
	3 T _{if} 2	0.50				
	4 T _{if} 3	10.00				
C0105	Deceleration time quick stop (QSP)	5.00	0.00 {0.02 s} 1300.00		Quick stop decelerates the drive to standstill according to the deceleration time set under C0105. If the output frequency falls below the threshold C0019, the DC-injection brake (DCB) will be activated. Exception: Lower frequency limit C0239 > 0 Hz: Quick stop decelerates the drive to standstill according to the deceleration time set under C0105.	
C0106	Holding time auto DCB	0.50	0.00 {0.01 s} = auto DCB not active	999.00 = ∞	Holding time, if DCB is activated because the value falls below the setting in C0019.	7-17
C0107	Holding time DCB	999.00	1.00 {0.01 s}	999.00 = ∞	Holding time, if DCB is activated via an external terminal or control word.	7-17
C0108*	Gain analog output X3/62 (AOUT1-GAIN)	128	0 {1}	255	Standard I/O: C0108 and C0420 are the same Application I/O: C0108 and C0420/1 are the same	7-37
C0109*	Offset analog output X3/62 (AOUT1-OFFSET)	0.00	-10.00 {0.01 V}	10.00	Standard I/O: C0109 and C0422 are the same Application I/O: C0109 and C0422/1 are the same	






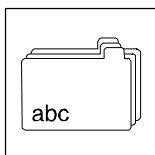
Appendix

Code table

Code		Possible settings		IMPORTANT
No.	Name	Lenze	Selection	
C0111	Configuration analog output X3/62 (AOUT1-IN)		Analog signal output to terminal	Change of C0111 is copied to C0419/1. Free configuration in C0419/1 sets C0111 = -255-! 7-37
		-0-	-0- Output frequency with slip (MCTRL1-NOUT+SLIP)	6 V/12 mA \equiv C0011
			-1- Controller load (MCTRL1-MOUT)	3 V/6 mA \equiv Rated motor torque with vector control (C0014 = 4), otherwise rated active inverter current (active current/C0091)
			-2- Apparent motor current (MCTRL1-IMOT)	3 V/6 mA \equiv Rated inverter current
			-3- DC-bus voltage (MCTRL1-DCVOLT)	6 V/12 mA \equiv DC 1000 V (400 V mains) 6 V/12 mA \equiv DC 380 V (240 V mains)
			-4- Motor power	3 V/6 mA \equiv Rated motor power
			-5- Motor voltage (MCTRL1-VOLT)	4.8 V/9.6 mA \equiv Rated motor voltage
			-6- 1/output frequency (1/C0050) (MCTRL1-1/NOUT)	2 V/4 mA \equiv $0.5 \times$ C0011
			-7- Output frequency with limits (NSET1-C0010...C0011)	0 V/0 mA/4 mA \equiv $f = f_{\min}$ (C0010) 6 V/12 mA \equiv $f = f_{\max}$ (C0011)
			-8- Operation with process controller (C0238 = 0, 1): Act. process controller value (PCTRL1-ACT) Operation without process controller (C0238 = 2): Output frequency without slip (MCTRL1-NOUT)	6 V/12 mA \equiv C0011
			-9- Ready for operation (DCTRL1-RDY)	Selection -9- ... -25- corresponds to the digital functions of the relay output K1 (C0008) or the digital output A1 (C0117): LOW = 0 V/0 mA/4 mA HIGH = 10 V/20 mA
			-10- TRIP fault message (DCTRL1-TRIP)	
			-11- Motor is running (DCTRL1-RUN)	
			-12- Motor is running / CW rotation (DCTRL1-RUN-CW)	
			-13- Motor is running / CCW rotation (DCTRL1-RUN-CCW)	
			-14- Output frequency = 0 (DCTRL1-NOUT=0)	
			-15- Frequency setpoint reached (MCTRL1-RFG1=NOUT)	
			-16- Q_{\min} threshold reached (PCTRL1-QMIN)	
			-17- I_{\max} limit reached (MCTRL1-IMAX) C0014 = -5-: Torque setpoint reached	
			-18- Overtemperature (ϑ_{\max} - 5 °C) (DCTRL1-OH-WARN)	
			-19- TRIP or Q_{\min} or pulse inhibit (IMP) active (DCTRL1-TRIP-QMIN-IMP)	
			-20- PTC warning (DCTRL1-PTC-WARN)	
			-21- Apparent motor current < current threshold (DCTRL1-IMOT<ILIM)	Belt monitoring Apparent motor current = C0054 Current threshold = C0156
			-22- Apparent motor current < current threshold and Q_{\min} threshold reached (DCTRL1-(IMOT<ILIM)-QMIN)	
			-23- Apparent motor current < current threshold and RFG 1: Input = output (DCTRL1-(IMOT<ILIM)-RFG-I=0)	
			-24- Warning motor phase failure (DCTRL1-LP1-WARN)	
			-25- Minimum output frequency reached (PCTRL1-NMIN)	
			-255- Freely configured under C0419/1	Only display Do not change C0111 since settings under C0419/1 can be lost



Code		Possible settings							IMPORTANT			
No.	Name	Lenze	Selection									
C0114↵	Level inversion digital inputs E1 ... E6	-0-	E6 2 ⁵	E5 2 ⁴	E4 2 ³	E3 2 ²	E2 2 ¹	E1 2 ⁰	<ul style="list-style-type: none">• The binary value of the selected number determines the input levels:<ul style="list-style-type: none">– 0: Ex is not inverted (HIGH active)– 1: Ex is inverted (LOW active)• C0114 and C0411 are identical• E5, E6 only application I/O The function "Parameter set changeover" cannot be inverted!			
			-0-	0	0	0	0	0			0	
			-1-	0	0	0	0	0			1	
			-2-	0	0	0	0	1			0	
			-3-	0	0	0	0	1			1	
										
			-63-	1	1	1	1	1			1	
C0117↵	Fixed configuration of digital output A1 (DIGOUT1)	-0-								Changes of C0117 will be copied to C0415/2. Free configuration under C0415/2 sets C0117 = -255-!	 7-45	
			-0- ... -16-	see C0008								
			-255-	Free configuration under C0415/2								Only display Do not change C0117 since settings under C0415/2 can be lost
C0119↵	Configuration PTC input / earth fault detection	-0-	-0-	PTC input not active			Earth fault detection active		<ul style="list-style-type: none">• Signal output configuration under C0415• Deactivate the earth fault detection if it is activated unintentionally  7-50			
			-1-	PTC input active, TRIP set								
			-2-	PTC input active, Warning set								
			-3-	PTC input not active			Earth fault detection					
			-4-	PTC input active, TRIP set								
			-5-	PTC input active, Warning set								
C0120	I ² t switch-off	0	0	{1 %}				200	Reference: Apparent motor current (C0054)	 7-49		
C0125*↵	LECOM baud rate	-0-	-0-	9600 baud						Only for LECOM-A (RS232)		
			-1-	4800 baud								
			-2-	2400 baud								
			-3-	1200 baud								
			-4-	19200 baud								
C0126*↵	Response in the event of communication errors	-2-	-0-	No TRIP when stopping the communication in the process data channel AIF No TRIP when stopping the communication between controller and function module on FIF						Monitors the process data channel of the AIF interface and communication via the FIF interface		
			-1-	TRIP (CEO) when stopping the communication in the process data channel AIF No TRIP when stopping the communication between controller and function module on FIF								
			-2-	No TRIP when stopping the communication in the process data channel AIF TRIP (CE5) when stopping the communication between controller and function module on FIF								
			-3-	TRIP (CEO) when stopping the communication in the process data channel AIF TRIP (CE5) when stopping the communication between controller and function module on FIF								
C0127↵	Setpoint selection	-0-	-0-	Absolute setpoint selection in Hz via C0046 or process data channel								
			-1-	Setpoint selection normalised via C0141 (0... 100 %) or process channel (±16384 = C0011)								
C0128*↵	Monitoring CAN communication on FIF	-0-	-0-	not active						Does not monitor the AIF interface		
			-1-	TRIP (CE6), if CAN controller sends "Warning" or "BUS-OFF"								



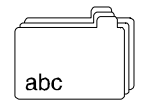
Appendix

Code table

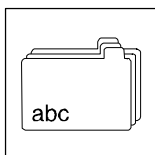
Code		Possible settings		IMPORTANT
No.	Name	Lenze	Selection	
C0135*	Controller control word (parameter channel)		Bit Assignment	<ul style="list-style-type: none"> Control via parameter channel. The most important control commands are grouped as bit commands. C0135 cannot be changed using the keypad
			110 JOG1, JOG2, JOG3 or C0046 (NSET1-JOG1/3, NSET1-JOG2/3) 00 C0046 active 01 JOG1 (C0037) active 10 JOG2 (C0038) active 11 JOG3 (C0039) active	
			2 Current direction of rotation (DCTRL1-CW/CCW) 0 not inverted 1 inverted	
			3 Quick stop (DCTRL1-QSP) 0 not active 1 active	
			4 Stop ramp function generator (NSET1-RFG1-STOP) 0 not active 1 active	
			5 Ramp function generator input = 0 (NSET1-RFG1-0) 1 not active active (deceleration to C0013)	
			6 UP function motor potentiometer (MPOT1-UP) 0 not active 1 active	
			7 DOWN function motor potentiometer (MPOT1-DOWN) 0 not active 1 active	
			8 Reserved	
			9 Controller inhibit (DCTRL1-CINH) 0 Controller enabled 1 Controller inhibited	
			10 TRIP set (DCTRL1-TRIP-SET)	
			11 TRIP reset (DCTRL1-TRIP-RESET) 0 ⇒ 1 Edge causes TRIP reset	
			13/12 Parameter set changeover (DCTRL1-PAR2/4, DCTRL1-PAR3/4) 00 PAR1 01 PAR2 10 PAR3 11 PAR4	
			14 DC injection brake (MTCRL1-DCB) 0 not active 1 active	
			15 Reserved	
C0138*	Process controller setpoint 1 (PCTRL1-SET1)	0.00	-480.00 {0.02 Hz} 480.00	<ul style="list-style-type: none"> Selection if C0412/4 = FIXED-FREE Display if C0412/4 ≠ FIXED-FREE The value set will be lost when switching the mains!
C0140*	Additive frequency setpoint (NSET1-NADD)	0.00	-480.00 {0.02 Hz} 480.00	<ul style="list-style-type: none"> Selection via function Set of the keypad or the parameter channel Is added to main setpoint Value is stored when switching the mains or removing the keypad

Appendix

Code table



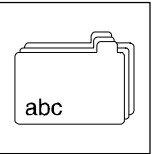
Code		Possible settings		IMPORTANT
No.	Name	Lenze	Selection	
C0141*	Setpoint normalisation	0.00	-100.00 {0.01 %} 100.00	<ul style="list-style-type: none"> Only effective if C0127 = 1 Reference: C0011 The value set will be lost when switching the mains!
C0142↓	Start condition	-1-	-0- Automatic start inhibited Flying restart not active	Start after LOW-HIGH level change at X3/28
			-1- Automatic start, if X3/28 = HIGH Flying restart not active	
			-2- Automatic start inhibited Flying-restart circuit active	Start after LOW-HIGH level change at X3/28
			-3- Automatic start, if X3/28 = HIGH Flying-restart circuit active	
C0143*↓	Selection of flying-restart	-0-	-0- Max. output frequency (C0011) ... 0 Hz	Motor speed selected for the indicated range
			-1- Last output frequency ... 0 Hz	
			-2- Frequency setpoint addition (NSET1-NOUT)	The corresponding value is input after controller enable.
			-3- Act. process controller value (C0412/5) addition (PCTRL1-ACT)	
C0144↓	Chopper frequency derating	-1-	-0- No temperature depending chopper frequency derating	
			-1- Automatic chopper frequency derating at $\vartheta_{\max} - 5\text{ °C}$	
C0145*↓	Process controller setpoint source	-0-	-0- Total setpoint (PCTRL1-SET3)	Main setpoint + additional setpoint
			-1- C0181 (PCTRL1-SET2)	<ul style="list-style-type: none"> Setpoint selection not possible via <ul style="list-style-type: none"> JOG values Set function of the keypad C0044, C0046 and C0049 in connection with manual/remote changeover, skip frequencies, ramp function generator, additional setpoint Activate the automatic DC-injection brake (auto DCB) with C0019 = 0 or C0106 = 0
			-2- C0412/4 (PCTRL1-SET1)	
[C0148]*	Motor parameter identification	-0-	-0- Ready	Only when the motor is cold! <ol style="list-style-type: none"> Inhibit controller, wait until drive is in standstill Enter the correct motor data under C0087, C0088, C0089, C0090, C0091 (see motor nameplate). C0148 = set 1 by ENTER Enable controller The identification <ul style="list-style-type: none"> starts, IMP Off takes approx. 30 s is completed when IMP is on again Controller inhibit
			-1- Start identification <ul style="list-style-type: none"> V/f-rated frequency (C0015), slip compensation (C0021) and motor stator inductivity (C0092) are calculated and saved. The motor stator resistance (C0084) = total resistance of motor cable and motor is measured and saved 	



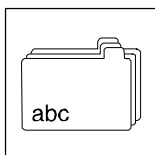
Appendix

Code table

Code		Possible settings		IMPORTANT	
No.	Name	Lenze	Selection		
C0150*	Controller status word 1 (parameter channel)		Bit Assignment	<ul style="list-style-type: none"> Scan of the controller status via parameter channel. The most important status information are grouped as bit pattern. Some bits can be freely assigned to internal digital signals Configuration in C0417 	
			0 Mapping of C0417/1		
			1 Pulse inhibit (DCTRL1-IMP)		
			0 Power outputs enabled		
			1 Power outputs inhibited		
			2 Mapping of C0417/3		
			3 Mapping of C0417/4		
			4 Mapping of C0417/5		
			5 Mapping of C0417/6		
			6 Output frequency = 0 (DCTRL1-NOUT=0)		
			0 false		
			1 true		
			7 Controller inhibit (DCTRL1-CINH)		
			0 Controller enabled		
			1 Controller inhibited		
C0151*	Controller status word 2 (parameter channel)		111101918 controller status	<ul style="list-style-type: none"> The bits can be freely assigned to internal digital signals Configuration in C0418 	
			0000 Controller initialization		
C0156*	Current threshold	0	0010 Switch-on inhibit	Programmable current threshold	
			0011 Operation inhibited		
C0161*	Actual fault		0100 Flying-restart circuit active	Signal output configuration under C0008 or C0415	
			0101 DC-injection brake active		
C0162*	Last fault		0110 Operation enabled	Display history buffer contents	8-1
			0111 Message active		
C0163*	Last but one fault		1000 Active fault	<ul style="list-style-type: none"> Keypad: three-digit, alpha numerical fault detection 9371BB keypad: LECOM fault number 	8-3
			12 Overheat warning (DCTRL1-OH-WARN)		
C0164*	Last but two fault		0 No warning	<ul style="list-style-type: none"> TRIP reset via function module or communication module with C0043, C0410/12 or C0135 bit 11. Auto TRIP reset after the time set under C0171. 	8-6
			1 ϑ_{max} - 5 °C reached		
C0168*	Actual fault		13 DC-bus overvoltage (DCTRL1-OV)		
			0 No overvoltage		
C0170*	Configuration TRIP reset	-0-	1 Overvoltage		
			14 Mapping of C0417/15		
C0171	Delay for auto-TRIP reset	0.00	15 Mapping of C0417/16		
			0.00 {0.01 s} 60.00		



Code		Possible settings		IMPORTANT																									
No.	Name	Lenze	Selection																										
[C0174]*	Brake transistor threshold	100	78 {1 %} 110 Recommended setting <table><tr><td>V_{mains} [3/PE AC xxx V]</td><td>C0174 [%]</td><td>V_{DC} [V DC]</td></tr><tr><td>380</td><td>78</td><td>618</td></tr><tr><td>400</td><td>81</td><td>642</td></tr><tr><td>415</td><td>84</td><td>665</td></tr><tr><td>440</td><td>89</td><td>704</td></tr><tr><td>460</td><td>93</td><td>735</td></tr><tr><td>480</td><td>97</td><td>767</td></tr><tr><td>500</td><td>100</td><td>790</td></tr></table>	V_{mains} [3/PE AC xxx V]	C0174 [%]	V_{DC} [V DC]	380	78	618	400	81	642	415	84	665	440	89	704	460	93	735	480	97	767	500	100	790	Not active with 8200 motec and 240 V controller 8200 vector (fixed threshold 380 V) <ul style="list-style-type: none">100 % = Threshold DC 790 V110 % = Brake transistor switched offV_{DC} = Threshold in V DCThe recommended setting allows max. 10 % mains overvoltage	11-3
V_{mains} [3/PE AC xxx V]	C0174 [%]	V_{DC} [V DC]																											
380	78	618																											
400	81	642																											
415	84	665																											
440	89	704																											
460	93	735																											
480	97	767																											
500	100	790																											
C0178*	Operating time		Total time CINH = HIGH {h}	Only display																									
C0179*	Power-on time		Total time power-on {h}	Only display																									
C0181*	Process controller setpoint 2 (PCTRL1-SET2)	0.00	-480.00 {0.02 Hz} 480.00		7-33																								
C0182*	Integration time S-ramps	0.00	0.00 {0.01 s} 50.00	<ul style="list-style-type: none">C0182 = 0.00: Linear ramp function generator operationC0182 > 0.00: S-shaped ramp function generator (smooth)	7-14																								
C0183*	Diagnostics		0 No fault	Only display																									
			102 TRIP active																										
			104 Message "Overvoltage (OL)" or "Undervoltage (LL)" active																										
			142 Pulse inhibit																										
			151 Quick stop active																										
			161 DC-injection brake active																										
			250 Warning active																										
C0184*	Frequency threshold PCTRL1-I-OFF	0.0	0.0 {0.1 Hz} 25.0	<ul style="list-style-type: none">If the output frequency $i < C0184$, the I component of the process controller will be switched off0.0 Hz = Function not active	7-33																								
C0185*	Switching window for "Frequency setpoint reached (C0415/x = 4)" and "NSET1-RFG1-I=0 (C0415/x = 5)"	0	0 {1 %} 80	<ul style="list-style-type: none">C0415/x = 4 and C0415/x = 5 are active within a window around NSET1-RFG1-INWindow in C0185 = 0%: $\pm 0,5$ % ref. to C0011Window in C0185 > 0%: $\pm C0185$ ref. to NSET1-RFG1-IN																									
C0189* (A)	Output signal compensator (PCTRL1-FOLL 1-OUT)		-480.00 {0.02 Hz} 480.00	Only display Compensator = PCTRL1-FOLL1																									
C0190* (A)	Main and additional setpoint (PCTRL1-ARITH1)	-1-	-0- $X + 0$	Mathematical addition of mains setpoint (NSET1-NOUT) and additional setpoint (PCTRL1-NADD) The result is in Hz $X = \text{NSET1-NOUT}$ $Y = \text{PCTRL1-NADD}$																									
			-1- $X + Y$																										
			-2- $X - Y$																										
			-3- $\frac{X \cdot Y}{C0011}$																										
			-4- $\frac{X}{Y} \cdot \frac{C0011}{100}$																										
			-5- $\frac{X \cdot C0011}{C0011 - Y}$																										
C0191 (A)	Compensator acceleration time	5.00	0.00 {0.02 s} 1300.00	Ref. to change 0 Hz ... C0011																									
C0192 (A)	Compensator deceleration time	5.00	0.00 {0.02 s} 1300.00	Ref. to change C0011 ... 0 Hz																									
C0193 (A)	Compensator reset	5.00	0.00 {0.02 s} 1300.00	Ref. to change C0011 ... 0 Hz Decelerate compensator to "0"																									



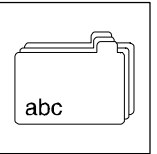
Appendix

Code table

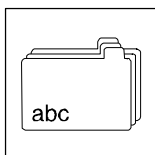
Code		Possible settings			IMPORTANT	
No.	Name	Lenze	Selection			
C0194 (A)	Min. compensator activation threshold	-200.00	{0.01 %} 200.00		Ref. to C0011 If the value falls below C0194: Compensator "runs" at C0191 or C0192 direction -C0011	
C0195 (A)	Max. compensator activation threshold	200.00	{0.01 %} 200.00		Ref. to C0011 If C0195 is exceeded: Compensator "runs" at C0191 or C0192 direction +C0011	
C0196* ↓	Activation of auto-DCB	-0-	-0- Auto-DCB active, if PCTRL1-SET3 < C0019			🔊 7-17
			-1- Auto-DCB active, if PCTRL1-SET3 < C0019 and NSET1-RFG1-IN < C0019			
C0200*	Software ID number				Only PC display	
C0201*	Software generation date				Only PC display	
C0202*	Software ID number				Only keypad display	
1 ... 4					Output to keypad as string in 4 parts à 4 characters	
C0220*	Acceleration time - additional setpoint (PCTRL1-NADD)	5.00	{0.02 s} 1300.00		Main setpoint ⇔ C0012 C0220 individually adjustable in every parameter set when using application-I/O	🔊 7-14
C0221*	Deceleration time - additional setpoint (PCTRL1-NADD)	5.00	{0.02 s} 1300.00		Main setpoint ⇔ C0013 C0221 individually adjustable in every parameter set when using application-I/O	
C0225 (A)	Acceleration time process controller setpoint (PCTRL1-SET1)	0.00	{0.02 s} 1300.00		Acceleration encoder for process controller setpoint = PCTRL1-RFG2	
C0226 (A)	Deceleration time process controller setpoint (PCTRL1-SET1)	0.00	{0.02 s} 1300.00			
C0228 (A)	Unhide time process controller	0.000	{0.001 s} 32.000		0.000 = Process controller output is transferred without unhiding	
C0229 (A)	Hide time process controller	0.000	{0.001 s} 32.000		0.000 = "Fading-off" switched off (C0241)	
C0230 (A)	Min. limit process controller output	-100.00	{0.01 %} 200.00		Asymmetric limit of process controller output ref. to C0011 <ul style="list-style-type: none">• If value falls below C0230 or exceeds C0231:<ul style="list-style-type: none">– Output signal PCTRL1-LIM = HIGH after time set under C0233• Set C0231 > C0230	
C0231 (A)	Max. limit process controller output	100.00	{0.01 %} 200.00			
C0232 (A)	Offset inverse characteristic process controller	0.00	{0.1 %} 200.0		Ref. to C0011	
C0233* (A)	Delay PCTRL1-LIM=HIGH	0.000	{0.001 s} 65.000		"Debouncing" of digital output signal PCTRL1-LIM (limit for process controller output exceeded) <ul style="list-style-type: none">• Sets PCTRL1-LIM = HIGH if the following still applies after time set:<ul style="list-style-type: none">– Value below C0230 or higher than C0231• Transition HIGH ⇔ LOW without delay	

Appendix

Code table



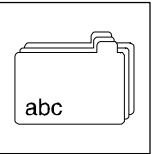
Code		Possible settings		IMPORTANT
No.	Name	Lenze	Selection	
C0234* (A)	Delay PCTRL1-SET=ACT	0.000	0.000 {0.001 s} 65.000	"Debouncing" of digital output signal PCTRL1-SET=ACT (process controller setpoint = process controller actual value) <ul style="list-style-type: none"> Sets PCTRL1-SET=ACT = HIGH if the following still applies after time set: <ul style="list-style-type: none"> Difference between PCTRL1-SET and PCTRL1-ACT is below threshold under C0235 Transition HIGH ⇒ LOW without delay
C0235* (A)	Difference threshold PCTRL1-SET=ACT	0.00	0.00 {0.01 Hz} 480.00	Threshold for the digital output signal PCTRL1-SET=ACT (process controller setpoint = process controller actual value) <ul style="list-style-type: none"> Difference between PCTRL1-SET and PCTRL1-ACT is within limits under C0235: <ul style="list-style-type: none"> PCTRL1-SET=ACT = HIGH after time set under C0234
C0236 (A)	Acceleration time - minimum frequency limitation	0.00	0.00 {0.02 s} 1300.00	Ref. to C0011 Minimum frequency limitation = C0239
C0238↵	Frequency precontrol	-2-	-0- No precontrol (only process controller)	Process controller has full influence
			-1- Precontrol (total setpoint + process controller)	Process controller has limited influence
			-2- No precontrol (only total setpoint)	Process controller has no influence (not active)
				Total setpoint (PCTRL1-SET3) = Main setpoint + additional setpoint
C0239	Lowest frequency limit	-480.00	-480.00 {0.02 Hz} 480.00 = not active	<ul style="list-style-type: none"> The value does not fall below limit independently of the setpoint. If the minimum frequency limitation is active, the automatic DC-injection brake (auto DCB) must be deactivated (C0019 = 0 or C0106 = 0).
C0240↵ (A)	Process controller output inversion (PCTRL1-INV-ON) (parameter channel)	-0-	-0- Not inverted	Set digital signal PCTRL1-INV-ON (process controller output inversion) via keypad/PC or parameter channel
			-1- Inverted	
C0241↵ (A)	Process controller unhiding/hiding (PCTRL1-FADING) (parameter channel)	-0-	-0- Process controller unhiding	Set digital signal PCTRL1-FADING (process controller hiding/unhiding) via keypad/PC or parameter channel
			-1- Process controller hiding	
C0242↵ (A)	Activation of process controller inverse control	-0-	-0- Normal control	Act. value increases ⇒ Output frequency increases
			-1- Inverse control	Act. value increases ⇒ Output frequency decreases
C0243↵ (A)	Deactivation of additional setpoint (PCTRL1-NADD-OFF) (parameter channel)	-0-	-0- PCTRL1-NADD active	Set digital signal PCTRL1-NADD-OFF (deactivation of additional setpoint) via keypad/PC or parameter channel
			-1- PCTRL1-NADD not active	
C0244↵ (A)	Root function actual process controller value	-0-	-0- not active	Internal calculation 1. Storing sign of PCTRL1-ACT 2. Extraction of the root of the absolute value 3. Multiply the result with the sign
			-1- $\pm \sqrt{ PCTRL1-ACT }$	



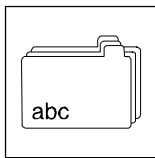
Appendix

Code table

Code		Possible settings		IMPORTANT
No.	Name	Lenze	Selection	
C0245* (A)	Comparison value for MSET1=MACT	-0-	-0- MCTRL1-MSET (C0412/6 or C0047)	Selection of a comparison value for setting the digital output signal MSET1=MACT (torque threshold 1 = actual torque value) <ul style="list-style-type: none"> If the difference between MCTRL1-MSET1 and MCTRL1-MACT or C0250 is within C0252: <ul style="list-style-type: none"> MSET1=MACT = HIGH after time set under C0254
			-1- Value under C0250	
C0250* (A)	Torque threshold 1 (MCTRL1-MSET1)	0.0	-200.0 {0.1 %} 200.0	Related to rated motor torque
C0251* (A)	Torque threshold 2 (MCTRL1-MSET2)	0.0	-200.0 {0.1 %} 200.0	Related to rated motor torque Comparison value for setting the digital output signal MSET2=MACT (torque threshold 2 = actual torque value) <ul style="list-style-type: none"> If the difference between MCTRL1-MSET2 and MCTRL1-MACT is within C0253: <ul style="list-style-type: none"> MSET2=MACT = HIGH after time set under C0255
C0252* (A)	Difference threshold for MSET1=MACT	0.0	0.0 {0.1 %} 100.0	
C0253* (A)	Difference threshold for MSET2=MACT	0.0	0.0 {0.1 %} 100.0	
C0254* (A)	Delay MSET1=MACT	0.000	0.000 {0.001 s} 65.000	"Debouncing" of digital output signals MSET1=MACT <ul style="list-style-type: none"> Sets MSET1=MACT = HIGH if the following still applies after time set: <ul style="list-style-type: none"> Difference between MCTRL1-MSET1 and MCTRL1-MACT or C0250 is within the threshold under C0252 Transition HIGH ⇒ LOW without delay
C0255* (A)	Delay MSET2=MACT	0.000	0.000 {0.001 s} 65.000	"Debouncing" of digital output signals MSET2=MACT <ul style="list-style-type: none"> Sets MSET2=MACT = HIGH if the following still applies after time set: <ul style="list-style-type: none"> Difference between MCTRL1-MSET2 and MCTRL1-MACT is within values set under C0253 Transition HIGH ⇒ LOW without delay
C0265* (A)	Configuration motor potentiometer	-3-	-0- Start value = power off	<ul style="list-style-type: none"> Start value: output frequency which is approached with Tir (C0012) when the mains is switched on and the motor potentiometer is activated: <ul style="list-style-type: none"> "Power off" = act. value if mains is off "C0010": min. output frequency from C0010 "0" = output frequency 0 Hz C0265 = -3-, -4-, -5-: <ul style="list-style-type: none"> QSP reduces the motor potentiometer along the QSP ramp (C0105)
			-1- Start value = C0010	
			-2- Start value = 0	
			-3- Start value = power off QSP, if UP/DOWN = LOW	
			-4- Start value = C0010 QSP, if UP/DOWN = LOW	
			-5- Start value = 0 QSP, if UP/DOWN = LOW	
C0304 ... C0309	Service codes			Modifications only by Lenze Service!



Code		Possible settings		IMPORTANT	
No.	Name	Lenze	Selection		
C0350* ↕	System bus node address	1	1 {1} 63	Changes will become effective after the command "reset node"	9-7
C0351* ↕	System bus baud rate	-0-	-0- 500 kbit/s	Changes will become effective after the command "reset node"	
			-1- 250 kbit/s		
			-2- 125 kbit/s		
			-3- 50 kbit/s		
			-4- 1000 kbit/s (presently not supported)		
			-5- 20 kbit/s		
C0352* ↕	Configuration of system bus devices	-0-	-0- Slave	Changes will become effective after the command "reset node"	9-7
			-1- Master		
C0353* ↕	System bus address source			Address source for system bus process data channels	9-7
1	CAN1 (sync)	-0-	-0- C0350 is source	Effective with sync control (C0360 = 1)	
2	CAN2	-0-	-1- C0354 is the source		
3	CAN1 (time)	-0-		Effective with event and time control (C0360 = 0)	
C0354* ↕	Selective system bus address		0 {1} 513	Individual addressing of system bus process data objects	9-9
				Effective with sync control (C0360 = 1)	
				Effective with event and time control (C0360 = 0)	
C0355* ↕	System bus identifier		0 {1} 2047	Only display	
				Identifier of CAN1 with sync control (C0360 = 1)	
				Identifier of CAN1 with event or time control (C0360 = 0)	
C0356* ↕	System bus time settings				9-8
C0357* ↕	System bus monitoring times				9-8
C0358* ↕	Reset node	-0-	-0- Without function	System bus reset node set-up	9-8
			-1- System bus reset		
C0359* ↕	System bus status		-0- Operational	Only display	
			-1- Pre-operational		
			-2- Warning		
			-3- Bus off		
C0360* ↕	Control of process data channel CAN1	-1-	-0- Event or time control		
			-1- Sync control		



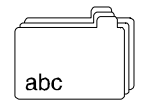
Appendix

Code table

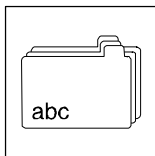
Code		Possible settings		IMPORTANT	
No.	Name	Lenze	Selection		
C0370* ↴	Activation of remote parameter setting		-0- Deactivated	Can only be read when using bus function modules on FIF	
			-1-...-63- Activates corresponding CAN address	-1- = CAN address 1 -63- = CAN address 63	
			-255- No system bus (CAN)	Only display	
C0372*	Function module identification		-0- No function module	Only display	
			-1- Standard I/O or AS-i		
			-2- System bus (CAN)		
			-6- Other function module on FIF	e.g. application I/O, INTERBUS, ...	
			-10- No valid recognition		
C0395* ↴	LONGWORD process input data		Bit 0..15 Controller word (mapping to C0135)	For bus operation only Sending of control word and main setpoint in a telegram to controller	
			Bit 16...31 Setpoint 1 (NSET1-N1) (mapping to C0046)		
C0396* ↴	LONGWORD process output data		Bit 0...15 Controller status word 1 (mapping of C0150)	For bus operation only Reading of status word and output frequency in a telegram from controller	
			Bit 16...31 Output frequency (MCTRL1-NOUT) (mapping of C0050)		

Appendix

Code table



Code		Possible settings		IMPORTANT	
No.	Name	Lenze	Selection		
C0410	Free configuration of digital input signals		Linkage of external signal sources to internal digital signals Digital signal source	<div>• A selection made under C0007 is copied to the corresponding subcode of C0410. A change of C0410 sets C0007 = -255-!</div> <div>7-43</div>	
1	NSET1-JOG1/3 NSET1-JOG1/3/5/7 (A)	1	0 255	Not assigned (FIXED-FREE)	Selection of fixed setpoints C0410/1 C0410/2C active 0410/33 C0046 LOW LOW LOW JOG1 HIGH LOW LOW JOG2 LOW HIGH LOW JOG7 HIGH HIGH HIGH
2	NSET1-JOG2/3 NSET1-JOG2/3/6/7 (A)	2	1 ... 6	Digital inputs X3/E1 ... X3/E6 (DIGIN1 ... 6) X3/E1 (1) ... X3/E6 (6) E5, E6 only application I/O	CW = CW rotation LOW CCW = CCW rotation HIGH
3	DCTRL1-CW/CCW	4	7	PTC input (X2.2/T1, X2.2/T2)	Quick stop (via terminal LOW active)
4	DCTRL1-QSP	255	10 ... 25	AIF control word (AIF-CTRL) Bit 0 (10) ... bit 15 (25)	Ramp function generator main setpoint stop
5	NSET1-RFG1-STOP	255	30 ... 45	CAN-IN1.W1/FIF-IN.W1 Bit 0 (30) ... bit 15 (45)	Ramp function generator input must be set "0" for mains setpoint
6	NSET1-RFG1-0	255	50 ... 65	CAN-IN1.W2/FIF-IN.W2 Bit 0 (50) ... bit 15 (65)	Motor potentiometer functions
7	MPOT1-UP	255	70 ... 85	CAN-IN2.W1 Bit 0 (70) ... bit 15 (85)	
8	MPOT1-DOWN	255	90 ... 105	CAN-IN2.W2 Bit 0 (90) ... bit 15 (105)	Controller inhibit (via terminal LOW active)
9	Reserved	255			External error (via terminal LOW active)
10	DCTRL1-CINH	255			Error reset
11	DCTRL1-TRIP-SET	255			Parameter set changeover (if C0988 = 0) if C0410/13 and C0410/14 use the same source in all parameter sets. Otherwise it is not possible to change between the parameter sets.
12	DCTRL1-TRIP-RESET	255			C0410/13 C0410/14 active LOW LOW PAR1 HIGH LOW PAR2 LOW HIGH PAR3 HIGH HIGH PAR4
13	DCTRL1-PAR2/4	255			DC-injection brake
14	DCTRL1-PAR3/4	255			Actual process controller value (PCTRL1-ACT) must be connected to process controller ramp function generator (PCTRL1-RFG2)
15	MCTRL1-DCB	3	200	Bit-by-bit assignment of the FIF control words (FIF-CTRL1, FIF-CTRL2) from the function module INTERBUS or PROFIBUS-DP (see C0005)	Manual/remote changeover
16 (A)	PCTRL1-RFG2-LOADI	255			Switch off I-component of the process controller
17	DCTRL1-H/Re	255			Process controller switch off
18	PCTRL1-I-OFF	255			
19	PCTRL1-OFF	255			Process controller stop (value "frozen")
20	Reserved	255			Failsafe change of the direction of rotation
21	PCTRL1-STOP	255			
22	DCTRL1-CW/QSP	255			0 = Frequency input not active 1 = Frequency input active Frequency input configuration under C0425 and C0426
23	DCTRL1-CCW/QSP	255			
24	DFIN1-ON	255			



Appendix

Code table

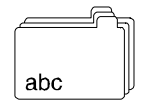
Code		Possible settings		IMPORTANT							
No.	Name	Lenze	Selection								
C0410 ↴ (cont.)	Free configuration of digital input signals		Linkage of external signal sources to internal digital signals Digital signal source	<ul style="list-style-type: none">• A selection made under C0007 is copied to the corresponding subcode of C0410. A change of C0410 sets C0007 = -255-!							
	25 (A)	PCTRL1-FOLL1-0		255	Compensator at reset ramp C0193 to "0"						
	26 (A)	Reserved		255							
	27 (A)	NSET1-TI1/3		255	Activate acceleration times						
	28 (A)	NSET1-TI2/3		255	C0410/27 C0410/28 active LOW LOW C0012; C0013 HIGH LOW T _{ir} 1; T _{if} 1 LOW HIGH T _{ir} 2; T _{if} 2 HIGH HIGH T _{ir} 3; T _{if} 3						
	29 (A)	PCTRL1-FADING		255	Process controller output on (LOW)/ off (HIGH)						
	30 (A)	PCTRL1-INV-ON		255	Process controller output inversion						
	31 (A)	PCTRL1-NADD-OFF		255	Switch off additional setpoint						
	32 (A)	PCTRL1-RFG2-0		255	Decelerate process controller ramp function generator input to "0" along ramp C0226						
	33 (A)	NSET1-JOG4/5/6/7		255							
	C0411 ↴	Level inversion digital inputs E1 ... E6		-0-	E6 2 ⁵	E5 2 ⁴	E4 2 ³	E3 2 ²	E2 2 ¹	E1 2 ⁰	<ul style="list-style-type: none">• The binary value of the selected number determines the input levels:<ul style="list-style-type: none">– 0: Ex is not inverted (HIGH active)– 1: Ex is inverted (LOW active)• C0114 and C0411 are identical• E5, E6 only application I/O The function "Parameter set changeover" cannot be inverted!
				-0-	0	0	0	0	0	0	
				-1-	0	0	0	0	0	1	
-2-			0	0	0	0	1	0			
-3-			0	0	0	0	1	1			
...						...					
-63-			1	1	1	1	1	1			


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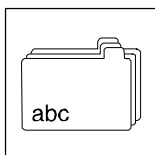
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Appendix

Code table



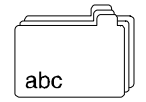
Code		Possible settings		IMPORTANT	
No.	Name	Lenze	Selection		
C0412	Free configuration of analog input signals		Connection between external analog signal sources and internal analog signals Analog signal source	A selection made under C0005, C0007 will be copied to the corresponding subcode of C0412. A change of C0412 sets C0005 = -255-, C0007 = -255-!	
1	Setpoint 1 (NSET1-N1)	1	0 255 not assigned (FIXED-FREE) or selection via keypad or parameter channel of an AIF bus module	Either NSET1-N1 or NSET1-N2 active Changeover with C0410/17	Parameter channel: C0046
2	Setpoint 2 (NSET1-N2)	1	1 X3/8 or X3/1U, X3/1I (AIN1-OUT)		Parameter channel: C0044
3	Additional setpoint (PCTRL1-NADD)	255	2 Frequency input (DFIN1-OUT) (Observe C0410/24, C0425, C0426, C0427)	Is added to NSET1-N1, NSET1-N2, JOG values and the function  of the keypad Parameter channel: C0049	
4	Process controller setpoint 1 (PCTRL1-SET1)	255	3 4 Motor potentiometer (MPOT1-OUT) X3/2U, X3/2I (AIN2-OUT, application I/O only)		
5	Act. process controller value (PCTRL1-ACT)	255	5 ... 9 Input signal = constantly 0 (FIXED0)	Parameter channel: C0051, if C0238 = 1, 2	
6	Torque setpoint or torque limit value (MCTRL1-MSET)	255	10 11 AIF input word 1 (AIF-IN.W1) AIF input word 2 (AIF-IN.W2) (Only evaluated if C0001 = 3!)	Observe C0014! Actual torque values not required. 16384 = 100 % torque setpoint Condition for selection via terminal (C0412/6 = 1, 2 oder 4): Analog input gain is set to C0414/x, C0426 = 32768/C0011 [%]	Parameter channel: C0047
7	Reserved	255	20 ... 23 CAN-IN1.W1 ... W4/FIF-IN.W1 ... W4 Word 1 (20) ... word 4 (23)		
8	MCTRL1-VOLT-ADD	255	30 ... 33 CAN-IN2.W1 ... W4 Word 1 (24) ... word 4 (27)	Only for special applications. Modifications only when agreed on by Lenze!	
9	MCTRL1-PHI-ADD	255	200 Word-by-word assignment of signals from the function module INTERBUS or PROFIBUS to FIF (see C0005)		
C0413*	Offset analog inputs			The max. limit of the setpoint value range of C0034 equals 100 %	
1	AIN1-OFFSET	0.0	-200.0 {0.1 %} 200.0	Settings for X3/8 and X3/1U, X3/1I C0413/1 and C0026 are identical	
2	AIN2-OFFSET	0.0		Setting for X3/2U, X3/2I (application I/O only)	
C0414*	Analog input gain			<ul style="list-style-type: none">100.0 % = Gain 1Inverse setpoint selection by negative gain and negative offset	
1	AIN1-GAIN	100.0	-1500.0 {0.1 %} 1500.0	Settings for X3/8 and X3/1U, X3/1I C0414/1 and C0027 are identical	
2	AIN2-GAIN	100.0		Setting for X3/2U, X3/2I (application I/O only)	



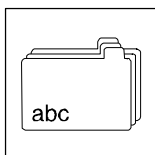
Appendix

Code table

Code		Possible settings		IMPORTANT
No.	Name	Lenze	Selection	
C0415	Free configuration of digital outputs		Output of digital signals to terminals	<ul style="list-style-type: none"> • A selection under C0008 will be copied to C0415/1. A change of C0415/1 sets C0008 = -255-! • A selection under C0117 will be copied to C0415/2. A change of C0415/2 sets C0117 = -255-! • C0415/3 only application-I/O
1	Relay output K1 (RELAY)	25	0 Not assigned (FIXED-FREE) 255 1 PAR-B0 active (DCTRL1-PAR-B0) 2 Pulse inhibit active (DCTRL1-IMP)	
2	Digital output X3/A1 (DIGOUT1)	16	3 I _{max} limit reached (MCTRL1-IMAX) (C0014 = -5-: Torque setpoint reached) 4 Frequency setpoint reached (MCTRL1-RFG1=NOUT)	
3	Digital output X3/A2 (DIGOUT2)	255	5 Ramp function generator 1: Input = output (NSET1-RFG1-I=0)	RFG1 = Ramp function generator main setpoint
			6 Q _{min} threshold higher (PCTRL1-QMIN) 7 Output frequency = 0 (DCTRL1-NOUT=0) 8 Controller inhibit active (DCTRL1-CINH) 9...12 Reserved 13 Overtemperature (θ _{max} -5 °C) (DCTRL1-OH-WARN) 14 DC-bus overvoltage (DCTRL1-OV) 15 CCW rotation (DCTRL1-CCW) 16 Ready for operation (DCTRL1-RDY) 17 PAR-B1 active (DCTRL1-PAR-B1) 18 TRIP or Q _{min} or pulse inhibit (IMP) active (DCTRL1-TRIP-QMIN-IMP) 19 PTC warning (DCTRL1-PTC-WARN)	active PAR-B1 PAR-B0 PAR1 LOW LOW PAR2 LOW HIGH PAR3 HIGH LOW PAR4 HIGH HIGH
			20 Apparent motor current < current threshold (DCTRL1-IMOT<ILIM) 21 Apparent motor current < current threshold and Q _{min} threshold reached (DCTRL1-(IMOT<ILIM)-QMIN) 22 Apparent motor current < current threshold and RFG 1: Input = output (DCTRL1-(IMOT<ILIM)-RFG-I=0)	Belt monitoring Apparent motor current = C0054 Current threshold = C0156
			23 Warning motor phase failure (DCTRL1-LP1-WARN) 24 Minimum output frequency reached (PCTRL1-NMIN) 25 TRIP fault message (DCTRL1-TRIP) 26 Motor is running (DCTRL1-RUN) 27 Motor is running/CW rotation (DCTRL1-RUN-CW) 28 Motor is running/CCW rotation (DCTRL1-RUN-CCW) 29 Process controller input = process controller output (PCTRL1-SET=ACT) 30 Reserved	
			31 Apparent motor current > current threshold and ramp function generator 1: Input = output (DCTRL1-(IMOT>ILIM)-RFG-I=0)	Overload monitoring Apparent motor current = C0054 Current threshold = C0156
			32 ... 37 X3/E1 (32) ... X3/E6 (37)	Digital input terminals



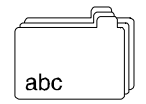
Code		Possible settings			IMPORTANT		
No.	Name	Lenze	Selection				
C0415 (cont.)	Free configuration of digital outputs		Output of digital signals to terminals			<div>7-45</div> <div>Bits of fieldbus input words Assigned bits of AIF-CTRL: Bit 3: QSP Bit 7: CINH Bit 10: TRIP-SET Bit 11: TRIP-RESET</div>	
			40...55	AIF control word (AIF-CTRL) Bit 0 (40) ... bit 15 (55)			
			60...75	CAN-IN1.W1 or FIF-IN.W1 Bit 0 (60) ... bit 15 (75)			
			80...95	CAN-IN1.W2 or FIF-IN.W2 Bit 0 (80) ... bit 15 (95)			
			100...115	CAN-IN2.W1, bit 0 (100) ... bit 15 (115)			
			120...135	CAN-IN2.W2, bit 0 (120) ... bit 15 (135)			
			140...172	Status application I/O			
			140	Torque threshold 1 reached (MSET1=MACT)		Only active when using application I/O	
			141	Torque threshold 2 reached (MSET2=MACT)			
			142	Process controller output limit reached (PCTRL1-LIM)			
			143 ... 172	Reserved			
C0416	Level inversion digital outputs	0	X3/A2	X3/A1	Relay K1	<div>7-45</div> <div>● 0: Output not inverted (HIGH-aktiv) ● 1: Output inverted(LOW-aktiv) ● X3/A2 only application I/O</div>	
			-0-	0	0		0
			-1-	0	0		1
			-2-	0	1		0
			-3-	0	1		1
			-4-	1	0		0
			-5-	1	0		1
			-6-	1	1		0
			-7-	1	1		1



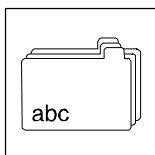
Appendix

Code table

Code		Possible settings		IMPORTANT	
No.	Name	Lenze	Selection		
C0417* ↴	Free configuration of controller status messages (1)		Output of digital signals to bus	<ul style="list-style-type: none">• The assignment is mapped to the<ul style="list-style-type: none">– Controller status word 1 (C0150)– AIF status word (AIF-STAT)– FIF output word 1 (FIF-OUT.W1)– Output word 1 in the CAN object 1 (CAN-OUT1.W1)➔ Fixed assignment to AIF in operation with communication modules: INTERBUS 2111, PROFIBUS-DP 2131 or LECOM-A/B/LI 2102. Modifications are not allowed!If you use function modules system bus (CAN), INTERBUS, PROFIBUS-DP to FIF, all bits are freely configurable.	📖 7-48
1	Bit 0	1	Digital signal sources like C0415		
2	Bit 1	2 ➔			
3	Bit 2	3			
4	Bit 3	4			
5	Bit 4	5			
6	Bit 5	6			
7	Bit 6	7 ➔			
8	Bit 7	8 ➔			
9	Bit 8	9 ➔	11110101 controller status 0000 Controller initialization 0010 Switch-on inhibit 0011 Operation inhibited 0100 Flying-restart circuit active 0101 DC-injection brake active 0110 Operation enabled 0111 Message active 1000 Active fault		
10	Bit 9	10 ➔			
11	Bit 10	11 ➔			
12	Bit 11	12 ➔			
13	Bit 12	13 ➔			
14	Bit 13	14 ➔			
15	Bit 14	15			
16	Bit 15	16			
C0418* ↴	Free configuration of controller status messages (2)		Output of digital signals to bus	<ul style="list-style-type: none">• The assignment is mapped to the<ul style="list-style-type: none">– Controller status word 2 (C0151)– FIF output word 2 (FIF-OUT.W2)– Output word 1 in the CAN object 2 (CAN-OUT2.W1)• All bits can be freely configured	📖 7-48
1	Bit 0	255	Digital signal sources like C0415		
...	...				
16	Bit 15	255			



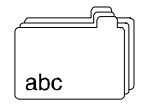
Code		Possible settings		IMPORTANT
No.	Name	Lenze	Selection	
C0419	Free configuration of analog outputs		<p>Analog signal output to terminal</p> <p>Analog signal source</p>	<ul style="list-style-type: none"> The selection made under C0111 is copied to C0419/1. A change of C0419/1 sets C0111 = 255! C0419/2, C0419/3 only active in operation with application-I/O DFOUT1: 50 ... 10 kHz
1	X3/62 (AOUT1-IN)	0	0 Output frequency (MCTRL1-NOUT+SLIP)	
2	X3/63 (AOUT2-IN)	2	1 Controller load (MCTRL1-MOUT)	3 V/6 mA/2.925 kHz \equiv Rated motor torque with vector control (C0014 = 4), otherwise rated active inverter current (active current/C0091)
3	X3/A4 (DFOUT1-IN)	3	2 Apparent motor current (MCTRL1-IMOT)	3 V/6 mA/2.925 kHz \equiv Rated inverter current
			3 DC-bus voltage (MCTRL1-DCVOLT)	6 V/12 mA/5.85 kHz \equiv DC 1000 V (400 V- mains) 6 V/12 mA/5.85 kHz \equiv DC 380 V (230 V mains)
			4 Motor power	3 V/6 mA/2.925 kHz \equiv Rated motor power
			5 Motor voltage (MCTRL1-VOLT)	4.8 V/9.6 mA/4.68 kHz \equiv Rated motor voltage
			6 1/output frequency (1/C0050) (MCTRL1-1/NOUT)	2 V/4 mA/1.95 kHz \equiv $0.5 \times C0011$
			7 Output frequency with limits (NSET1-C0010...C0011)	0 V/0 mA/4 mA/0 kHz \equiv $f = f_{\min}$ (C0010) 6 V/12 mA/5.85 kHz \equiv $f = f_{\max}$ (C0011)
			8 Operation with process controller (C0238 = 0, 1): Act. process controller value (PCTRL1-ACT) Operation without process controller (C0238 = 2): Output frequency without slip (MCTRL1-NOUT)	6 V/12 mA/5.85 kHz \equiv C0011
			9 Ready for operation (DCTRL1-RDY)	Selection -9- ... -25- corresponds to the digital functions of the relay output K1 (C0008) or the digital output A1 (C0117): LOW = 0 V/0 mA/4 mA/0 kHz HIGH = 10 V/20 mA/10 kHz
			10 TRIP fault message (DCTRL1-TRIP)	
			11 Motor is running (DCTRL1-RUN)	
			12 Motor is running / CW rotation (DCTRL1-RUN-CW)	
			13 Motor is running / CCW rotation (DCTRL1-RUN-CCW)	
			14 Output frequency = 0 (DCTRL1-NOUT=0)	
			15 Frequency setpoint reached (MCTRL1-RFG1=NOUT)	
			16 Q_{\min} threshold reached (PCTRL1-QMIN)	
			17 I_{\max} limit reached (MCTRL1-IMAX) C0014 = -5-: Torque setpoint reached	
			18 Overtemperature ($\vartheta_{\max} - 5^\circ\text{C}$) (DCTRL1-OH-WARN)	
			19 TRIP or Q_{\min} or pulse inhibit (IMP) active (DCTRL1-TRIP-QMIN-IMP)	
			20 PTC warning (DCTRL1-PTC-WARN)	
			21 Apparent motor current < current threshold (DCTRL1-IMOT<ILIM)	Belt monitoring Apparent motor current = C0054 Current threshold = C0156
			22 Apparent motor current < current threshold and Q_{\min} threshold reached (DCTRL1-(IMOT<ILIM)-QMIN)	
			23 Apparent motor current < current threshold and RFG 1: Input = output (DCTRL1-(IMOT<ILIM)-RFG-I=0)	
			24 Warning motor phase failure (DCTRL1-LP1-WARN)	
			25 Minimum output frequency reached (PCTRL1-NMIN)	



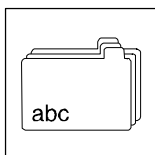
Appendix

Code table

Code		Possible settings		IMPORTANT
No.	Name	Lenze	Selection	
C0419 (cont.)	Free configuration of analog outputs		Analog signal output to terminal Analog signal source	7-37
			27 Output frequency without slip (MCTRL1-NOUT)	
			28 Act. process controller value (PCTRL1-ACT)	
			29 Process controller setpoint (PCTRL1-SET1)	
			30 Process controller output (PCTRL1-OUT)	
			31 Ramp function generator input (NSET1-RFG1-IN)	
			32 Ramp function generator output (NSET1-NOUT)	
			33 (A) PID controller output (PCTRL1-PID-OUT)	
			34 (A) Process controller output (PCTRL1-NOUT)	
			35 Input signal at X3/8 or X3/1U, X3/1I, evaluated with gain (C0414/1 or C0027) and offset (C0413/1 or C0026) (AIN1-OUT)	
			36 Input signal at frequency input X3/E1, evaluated with gain (C0426) and offset (C0427) (DFIN1-OUT)	
			37 Motor potentiometer output (MPOT1-OUT)	
			38 Input signal at X3/2U, X3/2I, evaluated with gain (C0414/2) and offset (C0413/2) (AIN2-OUT)	
			40 AIF input word 1 (AIF-IN.W1)	
			41 AIF input word 2 (AIF-IN.W2)	
			50 ... 53 CAN-IN1.W1 ... 4 oder FIF-IN.W1 ... FIF-IN.W4 Word 1 (50) ... word 4 (53)	
			60 ... 63 CAN-IN2.W1 ... 4 Word 1 (60) ... word 4 (63)	
			255 Not assigned (FIXED-FREE)	
C0420*	Gain analog output X3/62 (AOUT1-GAIN) Standard I/O	128	0 {1} 255	128 = Gain 1 C0420 and C0108 are the same
C0420* (A)	Gain analog outputs Application I/O			128 = Gain 1
1	X3/62 (AOUT1-GAIN)	128	0 {1} 255	C0420/1 and C0108 are the same
2	X3/63 (AOUT2-GAIN)			



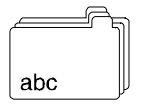
Code		Possible settings		IMPORTANT
No.	Name	Lenze	Selection	
C0421	Free configuration analog process data output words		Output of analog signals on bus Analog signal source	<ul style="list-style-type: none"> With Lenze setting, CAN-OUT1.W1 and FIF-OUT.W1 are defined as digital outputs and the 16-bit controller status word 1 (C0417) is assigned to them. If you want to output analog values (C0421/3 ≠ 255), the digital assignment must be deleted (C0417/x = 255)! Otherwise the output signal would be incorrect.
1	AIF-OUT.W1	8	0	Output frequency with slip (MCTRL1-NOUT+SLIP)
2	AIF-OUT.W2	0	1	Controller load (MCTRL1-MOUT)
3	CAN-OUT1.W1 / FIF-OUT.W1	255	2	Apparent motor current (MCTRL1-IMOT)
4	CAN-OUT1.W2 / FIF-OUT.W2	255	3	DC-bus voltage (MCTRL1-DCVOLT)
5	CAN-OUT1.W3 / FIF-OUT.W3	255	4	Motor power
6	CAN-OUT1.W4 / FIF-OUT.W4	255	5	Motor voltage (MCTRL1-VOLT)
7	CAN-OUT2.W1	255	6	1/output frequency (1/C0050) (MCTRL1-1/NOUT)
8	CAN-OUT2.W2	255	7	Output frequency with limits (NSET1-C0010...C0011)
9	CAN-OUT2.W3	255	8	Operation with process controller (C0238 = 0, 1): Act. process controller value (PCTRL1-ACT)
10	CAN-OUT2.W4	255		Operation without process controller (C0238 = 2): Output frequency without slip (MCTRL1-NOUT)
			9	Ready for operation (DCTRL1-RDY)
			10	TRIP fault message (DCTRL1-TRIP)
			11	Motor is running (DCTRL1-RUN)
			12	Motor is running / CW rotation (DCTRL1-RUN-CW)
			13	Motor is running / CCW rotation (DCTRL1-RUN-CCW)
			14	Output frequency = 0 (DCTRL1-NOUT=0)
			15	Frequency setpoint reached (MCTRL1-RFG1=NOUT)
			16	Q _{min} threshold reached (PCTRL1-QMIN)
			17	I _{max} limit reached (MCTRL1-IMAX) C0014 = -5-: Torque setpoint reached
			18	Overtemperature (θ _{max} -5 °C) (DCTRL1-OH-WARN)
			19	TRIP or Q _{min} or pulse inhibit (IMP) (DCTRL1-IMP)
			20	PTC warning (DCTRL1-PTC-WARN)
			21	Apparent motor current < current threshold (DCTRL1-IMOT<ILIM)
			22	Apparent motor current < current threshold and Q _{min} threshold reached (DCTRL1-(IMOT<ILIM)-QMIN)
			23	Apparent motor current < current threshold and RFG 1: Input = output (DCTRL1-(IMOT<ILIM)-RFG-I=0)
			24	Warning motor phase failure (DCTRL1-LP1-WARN)
			25	Minimum output frequency reached (PCTRL1-NMIN)





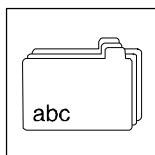
Appendix

Code table

Code		Possible settings		IMPORTANT
No.	Name	Lenze	Selection	
C0421 (cont.)	Free configuration analog process data output words		Output of analog signals on bus Analog signal source	24000 \equiv 480 Hz
			27 Output frequency without slip (MCTRL1-NOUT)	
			28 Act. process controller value (PCTRL1-ACT)	
			29 Process controller setpoint (PCTRL1-SET1)	
			30 Process controller output (PCTRL1-OUT)	
			31 Ramp function generator input (NSET1-RFG1-IN)	
			32 Ramp function generator output (NSET1-NOUT)	
			33 (A) PID controller output (PCTRL1-PID-OUT)	
			34 (A) Process controller output (PCTRL1-NOUT)	
			35 Input signal at X3/8 or X3/1U, X3/1I, evaluated with gain (C0414/1 or C0027) and offset (C0413/1 or C0026) (AIN1-OUT)	1000 \equiv Maximum value analog input signal (5 V, 10 V, 20 mA, 10 kHz) Condition: Gain of analog input or frequency input set to: C0414/x, C0426 = 20/C0011 [%]
			36 Input signal at frequency input X3/E1, evaluated with gain (C0426) and offset (C0427) (DFIN1-OUT)	
			37 Motor potentiometer output (MPOT1-OUT)	
			38 Input signal at X3/2U, X3/2I, evaluated with gain (C0414/2) and offset (C0413/2) (AIN2-OUT)	
			40 AIF input word 1 (AIF-IN.W1)	Setpoint to drive from communication module to AIF Normalisation via AIF
			41 AIF input word 2 (AIF-IN.W2)	
			50 ... 53 CAN-IN1.W1 ... 4 oder FIF-IN.W1 ... FIF-IN.W4 Word 1 (50) ... word 4 (53)	Setpoints to controller from CAN or function module to FIF Normalisation via CAN or FIF
			60 ... 63 CAN-IN2.W1 ... 4 Word 1 (60) ... word 4 (63)	
			255 Not assigned (FIXED-FREE)	
C0422*	Offset analog output X3/62 (AOUT1-OFFSET) Standard I/O	0.00	-10.00 {0.01 V} 10.00	C0422 and C0109 are the same
C0422*	Offset analog outputs (A) Application I/O			
1	X3/62 (AOUT1-OFFSET)	0.00	-10.00 {0.01 V} 10.00	C0422/1 and C0109 are the same
2	X3/63 (AOUT2-OFFSET)			
C0423*	Digital output delay (A)		0.000 {0.001 s} 65.000	"Debouncing" of digital outputs (as of version application-I/O E82ZAFA ... Vx11) • Switches the digital output if the linked signal is still active after the time set. • Digital output reset with delay
1	Relay output K1 (RELAY)	0.000		
2	Digital output X3/A1 (DIGOUT1)	0.000		
3	Digital output X3/A2 (DIGOUT2)	0.000		
C0424*	Output signal range - analog outputs (A) Application-I/O			Observe the jumper setting of the function module! (as of version application-I/O E82ZAFA ... Vx11)
1	X3/62 (AOUT1)	-0-	-0- 0 ... 10 V / 0 ... 20 mA	
2	X3/63 (AOUT2)	-0-	-1- 4 ... 20 mA	



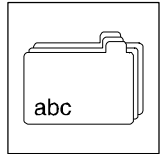
Code		Possible settings					IMPORTANT		
No.	Name	Lenze	Selection						
C0425* ↱	Configuration frequency input single track X3/E1 (DFIN1)	-2-		f_r	Δf_{\min}	t	f_{\max}	<ul style="list-style-type: none">f_r = Normalisation frequency – f_r corresponds to C0011Δf_{\min} = Resolutiont = Scanning rate – The lower the scanning rate the higher the dynamical response.f_{\max} = Maximum frequency which can be processed independently of C0425 – Set C0425 that the frequency coming from the encoder is lower than f_{\max}Activate frequency input with C0410/24 = 1Adjust frequency input under C0426 and C0427	 7-23
			-0-	100 Hz	1/200	1 s	300 Hz		
			-1-	1 kHz	1/200	100 msec	3 kHz		
			-2-	10 kHz	1/200	10 msec	10 kHz		
			-3-	10 kHz	1/1000	50 msec	10 kHz		
			-4-	10 kHz	1/10000	500 msec	10 kHz		
			-5- (A)	100 kHz	1/400	2 msec	100 kHz		
			-6- (A)	100 kHz	1/1000	5 msec	100 kHz		
	-7- (A)	100 kHz	1/2000	10 msec	100 kHz				
			-10- (A)	100 Hz	1/200	1 s	300 Hz		
			-11- (A)	1 kHz	1/200	100 msec	3 kHz		
			-12- (A)	10 kHz	1/200	10 msec	10 kHz		
			-13- (A)	10 kHz	1/1000	50 msec	10 kHz		
			-14- (A)	10 kHz	1/10000	500 msec	10 kHz		
			-15- (A)	100 kHz	1/400	2 msec	100 kHz		
			-16- (A)	100 kHz	1/1000	5 msec	100 kHz		
			-17- (A)	100 kHz	1/2000	10 msec	100 kHz		
C0426*	Gain frequency input X3/E1, X3/E2 (A) (DFIN1-GAIN)	100	-1500.0	{0.1 %}		1500.0	$C0426 = \frac{f_N(C0425)}{\frac{n_{\max}}{60 \text{ s}} \cdot \text{inc/rev}} \cdot \frac{C0011 - f_s}{C0011} \cdot 100 \%$ <ul style="list-style-type: none">n_{\max} = Maximum process speed of motor in min^{-1}f_s = Slip frequency in Hz		
C0427*	Offset frequency input X3/E1, X3/E2 (A) (DFIN1-OFFSET)	0.0	-100.0	{0.1 %}		100.0			
C0428* (A)	Gain frequency output (DFOUT1-OUT)	100	0.0	{0.1 %}		1500.0			
C0430* ↱ (A)	Automatic analog input adjustment	-0-	-0-	not active				Gain and offset are calculated by two points from the setpoint characteristic. Choose two points distant from each other to increase the calculation accuracy.	 7-22
			-1-	Input point for X3/1U, X3/1I					
			-2-	Input points for X3/2U, X3/2I					
C0431* ↱ (A)	Coordinates point 1		-100.0	{0.1 %}		100.0	1. Select and input under C0430 which you want to calculate gain and offset for 2. Enter point 1 under C0431 X value (setpoint) and Y value (output frequency) 3. Enter point 2 under C0432 X value (setpoint) and Y value (output frequency) 4. Calculated values are automatically entered under C0413 (offset) and C0414 (gain)		
		1 X (P1)	-100.0	Analog setpoint of P1 100 % = max. input value (5 V, 10 V or 20 mA)					
		2 Y (P1)	-100.0	Output frequency of P1 100 % = C0011					
C0432* ↱ (A)	Coordinates point 2		-100.0	{0.1 %}		100.0			
		1 X (P2)	100.0	Analog setpoint of P1 100 % = max. input value (5 V, 10 V or 20 mA)					
		2 Y (P2)	100.0	Output frequency of P1 100 % = C0011					
C0435* ↱ (A)	Automatic frequency input adjustment	0	0 = not active	{1}		4096	<ul style="list-style-type: none">Only require for speed control with digital feedback via HTL encoderCalculates the gain C0426, depending on C0425 and C0011C0426 will be recalculated after every change of C0011 or C0425.Always enter number of increments divided by number of pole pairs of the motor!<ul style="list-style-type: none">Example: Encoder increments = 4096, motor 4 polesC0435 = 2048		



Appendix

Code table

Code		Possible settings		IMPORTANT
No.	Name	Lenze	Selection	
C0440 (A)	Additional JOG values			JOG = Setpoint Activation via configuration under C0410
1	JOG 1	20.00	-650.00 {0.02 Hz 650.00	C04401/1 and C0037 are the same
2	JOG 2	30.00		C04401/2 and C0038 are the same
3	JOG 3	40.00		C04401/3 and C0039 are the same
4	JOG 4	15.00		
5	JOG 5	25.00		
6	JOG 6	35.00		
7	JOG 7	45.00		
[C0469]*	Function of key of the keypad	-1-	-0- not active -1- CINH (controller inhibit) -2- QSP (quick stop)	Determines the function which is activated when pressing . Changes will only be active after mains switching!
C0500*	Calibration of numerator variable	2000	1 {1} 25000	<ul style="list-style-type: none"> The codes C0010, C0011, C0017, C0019, C0037, C0038, C0039, C0044, C0046, C0049, C0050, C0051, C0138, C0139, C0140, C0181, C0239, C0625, C0626, C0627 can be calibrated in a way that the keypad indicates a process variable. If C0500/C0501 remain unchanged, the unit "Hz" will no longer be displayed.
C0501*	Calibration of denominator process variable	10	1 {1} 25000	
C0500* (A)	Calibration of numerator variable	2000	1 {1} 25000	
C0501* (A)	Calibration of denominator process variable	10	1 {1} 25000	
C0502* (A)	Process variable unit	0	0: — 6: rpm 13: % 18: Ω 1: ms 9: °C 14: kW 19: hex 2: s 10: Hz 15: N 34: m 4: A 11: kVA 16: mV 35: h 5: V 12: Nm 17: mΩ 42: mH	<ul style="list-style-type: none"> The codes C0037, C0038, C0039, C0044, C0046, C0049, C0051, C0138, C0139, C0140, C0181 can be calibrated in a way that the keypad indicates a process variable with the unit selected under C0502. Frequency-related codes (C0010, C0011, C0017, C0019, C0050, C0239, C0625, C0626, C0627) are always indicated in "Hz".
C0517*	User menu			<ul style="list-style-type: none"> After mains switching or when using the function the code from C0517/1 will be displayed. In Lenze setting, the user menu contains the most important codes for setting up the control mode "V/f characteristic control with linear characteristic" When the password protection is activated, only the codes entered under C0517 are freely accessible. Enter the required code numbers in the subcodes.
1	Memory 1	50	C0050 Output frequency (MCTRL1-NOUT)	
2	Memory 2	34	C0034 Analog setpoint selection range	
3	Memory 3	7	C0007 Fixed configuration - digital input signals	
4	Memory 4	10	C0010 Minimum output frequency	
5	Memory 5	11	C0011 Maximum output frequency	
6	Memory 6	12	C0012 Acceleration time main setpoint	
7	Memory 7	13	C0013 Deceleration time main setpoint	
8	Memory 8	15	C0015 V/f rated frequency	
9	Memory 9	16	C0016 U _{min} boost	
10	Memory 10	2	C0002 Parameter set transfer	
C0518	Service codes			Modifications only by Lenze Service!
C0519				
C0520				
C0597*	Configuration of motor phase failure detection	-0-		Deactivate it before motor parameter identification. Otherwise the identification will be stopped with the error message LP1
	Configuration of motor phase failure detection	-0-	not active	Error messages:
	Configuration of motor phase failure detection	-1-	TRIP is indicated	Keypad: LP1, bus: 32
	Configuration of motor phase failure detection	-2-	Warning	Keypad: LP1, bus: 182
C0599*	Current limit value for motor phase failure detection	5	1 {1 %} 50	<ul style="list-style-type: none"> Threshold for C0597 Reference: Rated controller current



Code		Possible settings				IMPORTANT	
No.	Name	Lenze	Selection				
C0625*	Skip frequency 1	480.00	0.00	{0.02 Hz}	480.00	Applies to C0625, C0626, C0627	7-8
C0626*	Skip frequency 2	480.00	0.00	{0.02 Hz}	480.00		
C0627*	Skip frequency 3	480.00	0.00	{0.02 Hz}	480.00		
C0628*	Bandwidth of skip frequencies	0.00	0.00	{0.01 %}	100.00		
C0988*	DC-bus voltage threshold for DC-bus voltage control	0	0	{1 %}	200	<ul style="list-style-type: none">• C0988 = 0 % – Parameter set changeover via DC-bus voltage deactivated• Changeover always between PAR1 nd PAR2• Parameter set changeover via terminal, bus or PC is not possible if C0988 > 0!	7-10 7-18
C01500*	Software number application I/O					Only PC display	
C1501*	Software creation date application I/O					Only PC display	
C1502 (A)	Software number application I/O					Output to keypad as string in 4 parts à 4 characters	
1	Part 1						
...	...						
4	Part 4						
C1504 ... C1507	Service codes application I/O					Modifications only by Lenze Service!	